

A Contribution to the Ornithology of Ecuador.

By

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Read January 25th 1922.

The following paper is based on collections, which at several occasions have been presented to the R. Nat. Hist. Museum in Stockholm by Mr. LUDOVICO SÖDERSTRÖM, Royal Swedish Consul in Quito. In the year 1921 the Museum received 1836 specimens, and some years ago a large and very valuable collection of Colibris was presented by Consul SÖDERSTRÖM and then classified and named by LÖNNBERG. His report on this is included in the present paper. About 409 different races of resident birds are represented in these collections not counting 26 (or 27) migrants.

The specimens, which all are in a very good condition, have been collected chiefly in the northern parts of Ecuador. The greater number of them are from the western side of the Andes and the central plateau, but there are also a good many from the eastern slopes as well. By this we have been able to state, that, as a rule, the fauna with regard to the birds as well is different on both sides of the mountain-chain, and in some instances we have also had the opportunity of pointing out the differences between the representatives of the same species on the eastern and western slopes of the Andes, and to describe some new forms.

The birds are all carefully labelled, and it is especially of very great interest and scientific value, that Consul SÖDERSTRÖM in every case has stated at which altitude the different specimens have been collected. By this it has been possible

to obtain a fair view of the zonal distribution of the different species represented. It is, of course, evident that such beings as birds, which have so great faculty of locomotion, do not need to remain in the same district, even if they are not migratory, and it is also clear, that they in many instances move from one place to another in order to get better access to some kind of food. In one instance it is even plainly stated on the label, that a species (*Chamaepetes goudoti*), usually lives at a certain altitude, but that it, when the berries and fruits at a higher altitude are ripe, wander up to this to enjoy the »set table». There might probably be several such instances or analogous cases, and many birds are certainly very independent of the altitude, if they only find their necessities of life, as for instance several water birds and birds of prey. But on the other hand there are certain general rules for the zonal distribution of the bird-life as well as for other living beings. This has been admirably proved by FRANK M. CHAPMAN in his splendid work »The Distribution of Bird-life in Colombia» (Bull. Amer. Mus. Nat. Hist., vol. XXXVI, 1917) and also »The Distribution of Bird Life in the Urubamba Valley of Peru» (U. S. Nat. Mus. Bulletin 117, 1921), not to speak of others. The author quoted has also had the opportunity to study the biological conditions on the spot and thus to get a clearer conception of many things, than ever can be acquired by naturalists, who only are able to work on material collected by others, how valuable in itself this may be. In consequence of this there must be many short-comings in the following attempt to give a review of the distribution of the bird-life in those parts of Ecuador, to which the collection refers. The ornithology of the tropical belt is not by far so completely represented as could be wished for, and also the specimens from the eastern side are not numerous enough to give a satisfactory view of the fauna there. Nevertheless we have decided to set forth the following survey, which, in spite of its incompleteness, must be regarded to throw some light over the distribution of the birds in certain interior parts of Northern Ecuador.

In the following we have accepted the usual scheme of division of the different life zones. Thus the tropical zone from sea level to an altitude of approximately 5000 feet. According to a communication of Mag. HEILBORN this nearly

coincides with the tropical forest belt. Then follows the subtropical zone up to a height of about 9000—9500 feet, characterised by the mountainous rain forest, which is especially rich in tree-ferns. Above this is the temperate zone extending on the western side up to an altitude of approximately 13000 feet, and in the inter-Andean valley about 12000 feet. In this arboreal growth is chiefly represented by bushes. Above this follows the so called Páramo zone.

The birds of the Páramo Zone.

| | |
|---|---|
| <i>Podiceps calipareus</i> | * <i>Upucerthia exelsior</i> |
| * <i>Attagis chimborazensis</i> | <i>Cinclodes fuscus albidiventris</i> |
| <i>Theristicus branickii</i> | <i>Leptasthenura andicola</i> |
| * <i>Erismatura aequatorialis</i> | * <i>Siptornis flammulata</i> |
| <i>Vultur gryphus</i> | <i>Myiotheretes erythropygus</i> |
| * <i>Laticauda tyrianthina quitensis</i> ¹ | * <i>Muscisaxicola alpina</i> |
| * <i>Oreotrochilus chimborazo</i> | <i>Cistothorus aequatorialis</i> ¹ |
| * » » <i>jamesoni</i> | <i>Anthus bogotensis</i> ¹ |
| * » » <i>söderströmi</i> | <i>Phrygilus unicolor</i> |
| * <i>Chalcostigma stanleyi</i> | |

Among these birds, which belong to the Páramo zone, there are, not counting the widely spread Condor, only three species which in identical races are recorded by CHAPMAN for the corresponding zone in Colombia viz. *Leptasthenura andicola*, *Cistothorus aequatorialis* and *Anthus bogotensis*, and three from the Urubamba valley of Peru, viz. *Theristicus branickii*, *Myiotheretes erythropygus* and *Phrygilus unicolor*, while some other species are represented by related races. But not less than ten forms appear to be endemic (marked with an asterisc), which certainly is to be regarded as a very high percent. This seems also to indicate, that the wanderings of the birds along the Andes in this zone are not very lively, contrary to what might be supposed, as undoubtedly similar conditions of life ought to prevail along vast stretches of the mountain chain.

The birds of the Temperate Zone.

| | |
|--|---|
| <i>Nothocercus julius</i> ² (C) | <i>Metriopelia melanoptera saturator</i> ³ |
| <i>Nothoprocta curvirostris</i> ² | <i>Fulica ardesiaca</i> (P) ^{2,3} |
| <i>Columba albilinea</i> (C P) ² | <i>Podilymbus podiceps</i> |

¹ Also ranging into the temperate and by CHAPMAN recorded for the same.

² Ranging into subtropical zone.

³ Ranging into the Páramo zone.

| | |
|--|--|
| <i>Larus serranus</i> (P) ² | * <i>Laticauda primolina</i> |
| <i>Ptiloscelis resplendens</i> (P) | <i>Chalcostigma herrani</i> (C) |
| <i>Gallinago nobilis</i> ¹ (C) | » <i>stanleyi</i> ^{1,2} |
| » <i>jamesoni</i> (C) | <i>Rhamphomicron microrhynchum</i> (C) |
| <i>Tantalus loculator</i> | * <i>Psalidoprymna victoriae aequatorialis</i> ¹ |
| <i>Casmerodius egretta</i> | <i>Chaetocercus mulsanti</i> (C) ¹ |
| <i>Florida caerulea</i> | <i>Scytalopus magellanicus niger</i> (C) ¹ |
| <i>Nycticorax tayazu-guira</i> ¹ | <i>Myornis senilis</i> (C) |
| <i>Dendrocycna discolor</i> (C) | <i>Acropternis infuscatus</i> ¹ |
| <i>Dafila spinicauda</i> ² | <i>Grallaria rufula</i> |
| <i>Nettion andium</i> (C) ² | <i>Synallaxis gularis</i> (C) ¹ |
| <i>Nyroca nationi</i> | <i>Margarornis perlata</i> (C P) ¹ |
| <i>Ibycter carunculatus</i> | <i>Agriornis solitaria</i> ¹ |
| <i>Geranoaetus melanoleucus</i> | <i>Ochthodiaeta fumigata</i> (C) |
| <i>Buteo poecilochrous</i> ^{1,2} | <i>Ochthoeca oenanthoides brunneifrons</i> (C) ¹ |
| » <i>erythronotus peruviansis</i> ¹ | » <i>rufomarginata</i> ¹ |
| » <i>hypospodius</i> ¹ | * <i>Muscisaxicola maculirostris rufescens</i> ¹ |
| <i>Asio flammeus</i> (C) ¹ | <i>Anaeretes agilis</i> (C) ¹ |
| <i>Glaucidium jardinei</i> (C) ¹ | <i>Heliocera rubrocristata</i> (C P) ¹ |
| <i>Steatornis caripensis</i> ² | <i>Cinnicerthia unirufa</i> (C) |
| <i>Chaetura zonaris altissima</i> (C) ¹ | » <i>unibrunnea</i> (C) |
| <i>Helianthea lutetiae</i> (C) ¹ | <i>Semimerula gigas</i> (C) ^{1,2} |
| * » » <i>hamiltoni</i> ¹ | <i>Sycalis arvensis luteiventris</i> |
| <i>Lafresnayeia saul</i> (C) | <i>Phrygilus alaudinus</i> |
| <i>Ensifera ensifera</i> (C) | <i>Buarremon pallidinucha papallactæ</i> ¹ (C) |
| * <i>Vestipedes nigrivestis</i> ¹ | <i>Diglossa personata</i> (C) ¹ |
| * » <i>luciani</i> | <i>Poecilothraupis palpebrosa caerule-</i> <i>scens</i> |
| » <i>mosquera</i> (C) | * » <i>atricrissa</i> |
| <i>Pterophanes temmincki</i> (C) | |
| <i>Aglaeactis cupripennis</i> (C) ² | |

C means, that the species is recorded by CHAPMAN for Colombia and P for the Urubamba valley of Peru, and * that the species is endemic.

Most of the species, which also are reported by CHAPMAN from Colombia, have been found in the temperate zone there as well. Some of them are, however, recorded by him for the subtropical zone. Certain species, as for instance *Casmerodius egretta*, *Florida caerulea*, *Dendrocycna discolor* etc., are by the author quoted put up in the list of birds from the tropical zone. It is in these cases most probable, that they occur through all zones, and that they are quite independent of the climatic conditions, only looking for the for them necessary water. Some others of the species, which we have recorded

¹ Ranging into subtropical zone.

² Ranging into the Páramo zone.

in the above list, have been found only just at the limit towards the subtropical zone and a little below the same as well. We have, however, incorporated them into the temperate zone, because their distribution, as far as it is known to us, extends more broadly into the temperate than into the subtropical zone.

With regard to both species of *Gallinago* it is to be observed, that they have been recorded by CHAPMAN for the Páramo zone, but in the present collection they are only represented by specimens from the temperate zone¹, although in the inter-Andean valley. No doubt they are equally at home in both zones in suitable localities.

Some of the waterbirds appear to be new to the fauna of Ecuador as for instance *Tantalus loculator*, *Nycticorax tayazugaira*, *Nyroca nationi*.

The birds of the Subtropical Zone.

1. Eastern species.

| | |
|---|--|
| <i>Nothocercus plumbeiceps</i> | * <i>Pseudocolaptes johnsoni</i> |
| <i>Chamaeetes goudoti tschudii</i> | <i>Dendrocincla tyrannina</i> (C c w) |
| <i>Ibycter americanus</i> (C) | <i>Xiphorhynchus triangularis</i> (C) |
| <i>Momotus aequatorialis</i> (C) | <i>Ochthaeca cinnamomeiventris</i> (C c e) |
| <i>Campylopterus lazulus</i> | <i>Myiobius cinnamomeus</i> (P) |
| <i>Helianthea coeligena columbiana</i> (C e) | <i>Lathria fuscocinerea</i> (C e w) |
| * <i>Vestipedes russata</i> | <i>Rupicola peruviana</i> (P) |
| <i>Ocreatus cissiurus</i> | <i>Calospiza parzudakii</i> (P) |
| <i>Opisthoprora euryptera</i> (C c) | <i>Pyranga rubriceps rufistigmatus</i> |
| <i>Cyanolesbia kingii mocoa</i> (C e) | <i>Sericossypha albicristata</i> (C e) |
| <i>Chaetocercus heliodor</i> ² (C e) | <i>Ostinops angustifrons</i> (C e) |
| <i>Pharomacrus antisiensis</i> (C) | <i>Cacicus cela</i> (C e) |
| <i>Rhamphastos ambiguus</i> (C e) | » <i>leucorhamphus</i> |
| <i>Andigena hypoglauca</i> (C e) | » <i>uropygialis</i> (C e) |
| » <i>spilorhyncha</i> (C c) | <i>Xanthura yncas</i> (P) |
| <i>Aulacorhamphus albivittatus</i> (C c e) | |

C means, that the species in question also is recorded by CHAPMAN for Colombia, and w the western, c the central, and e the eastern parts of this country. P in a similar way indicates, that the species is mentioned by the author quoted for the Urubamba valley, Peru. It is evident that the greater number of species from this zone is found in Colombia as well.

¹ and a *G. nobilis* even from an altitude of only 8500 f.

² Ranging into the tropical zone as well.

With regard to the zonal distribution of the species in the above list there is a certain discordance between CHAPMAN's statements and our own view as to the occurrence of some few species. The author quoted considers for instance *Opisthoprora euryptera*, *Andigena hypoglauca*, *Dendrocincla tyrannina* and *Sericossypha albicristata* as members of the temperate fauna, while we have our specimens from a lower altitude, thus from the subtropical zone. The first of the species enumerated we have obtained from an altitude of something between seven and eight thousand feet, but the others in several specimens as low as between six and seven thousand feet, so that in the latter cases most certainly the birds in question must be at home as well in the subtropical as in the temperate zone.

On the other hand there are also some few species which CHAPMAN records as tropical, but which we have from the subtropical belt. One of these *Ibycter americanus* has as a bird of prey without doubt a wide range. Two others viz. *Ostinops angustifrons* and *Cacicus cela* are in the present collection represented by specimens from an altitude of 6000 f. and may thus live as well in the subtropical as in the tropical zone.

2. Western species.

| | |
|---|--|
| <i>Tinamus robustus inexpectatus</i> ¹ | <i>Coragyps atratus foetens</i> ² |
| <i>Penelope montagnei</i> (C c e) | <i>Cathartes perniger</i> |
| <i>Chamaepetes goudoti goudoti</i> ¹ (C c) | <i>Polyborus cheriway</i> (C) |
| <i>Odontophorus melanonotus</i> | <i>Ibycter americanus</i> (C) |
| <i>Columba goodsoni</i> (C w) | <i>Circus cinereus</i> ² (C) |
| » <i>plumbea bogotensis</i> (C) | <i>Micrastur melanoleucus</i> ¹ |
| » <i>subvinacea berlepschi</i> ¹ (C w) | <i>Climacocercus guerilla interstes</i> ^{1,2} (C) |
| <i>Zenaida auriculata</i> (C c) | <i>Parabuteo unicinctus unicinctus</i> ² |
| <i>Chamaepelia passerina quitensis</i> ² | <i>Accipiter ventralis ventralis</i> |
| <i>Leptoptila verreauxi occidentalis</i> ¹ (C w c) | » » <i>nigroplumbeus</i> ² |
| » <i>pallida</i> ¹ (C w) | » <i>erythrocnemis</i> ² |
| <i>Osculatia purpurata</i> ¹ (C w) | » <i>bicolor schistoclamys</i> |
| <i>Oreopeleia montana</i> (C) | » <i>pileatus</i> |
| » <i>bourcierii</i> (C w c) | <i>Rupornis leucorrhoea</i> |
| <i>Rallus virginianus aequatorialis</i> | <i>Leucopternis princeps</i> |
| <i>Gallinula galeata</i> | <i>Spizaetus ornatus</i> (C) |
| <i>Ardea cocoi</i> (C) | <i>Chondrohierax uncinatus</i> (C) |
| <i>Merganetta columbiana</i> ^{1,2} (C c) | <i>Ictinia plumbea</i> ¹ (C) |
| <i>Carbo vigua</i> (C) | <i>Harpagus bidentatus</i> ¹ (C) |

¹ Ranging into the tropical zone.

² Ranging into the temperate zone.

- Falco rufigularis* (C)
 » *fuscocaerulescens* (C)
*Cerchneis cinnamomeus aequatorialis*²
*Bubo nigrescens*²
*Asio stygius*² (C)
Ciccaba albogularis (C)
 » *virgata virgata* (C)
Syrnium albitarse
Speotyto cunicularia
Gisella harrisi
Glaucidium pumilum griseiceps
Tyto perlata contempta
Ognorhynchus icterotis (C c w)
*Amazona mercenaria*¹ (C)
*Pionus seniloides gerontodes*¹
 » *chalcopterus*¹ (C)
Ceryle amazona (C)
 » *torquata* (C)
*Prionornis platyrhynchus platyrhynchus*¹
Nyctibius jamaicensis griseus
*Stenopsis ruficervix*² (C)
Doryphera ludoviciae rectirostris
Phaethornis baroni
 » *syrmatophorus berlepschi*
*Florisuga mellivora*¹ (C w c)
Patagona gigas (P)
*Argyrtria viridiceps*¹ (C w)
Amazilia fuscicaudata
Hylocharis grayi (C c)
 **Thalurania fannyi verticeps*
Colibri delphinae (C)
 » *cyanotus* (C c)
 » *iolatus*² (C P)
Urochroa bougueri
Phaeolaema aequatorialis (C w)
 **Heliodoxa jacula jamesoni*¹
 **Eugenia imperatrix*
 **Helianthea fulvigula*
 » *wilsoni*¹
Vestipedes vestitus smaragdinipectus
 (C c)
Boissoneaua jardinei (C w)
 » *matthewsi* (P)
 * » *flavescens tinochlora*
 **Ocreatus melanantherus*
Urosticta benjamini (C w)
 **Adelomyia melanogenys maculata*
 **Heliangelus strophianus*
- **Heliangelus exortis* (C)
 » *viola*
Cyanolesbia coelestis (C w)
Psalidoprymna gouldi gracilis
Schistes albogularis (C w)
Myrtis fanny
Calliphlox mitchelli (C w)
Pharomacrus antisieni (C)
 » *auriceps heliactin*
 **Trogonurus personatus virginialis*
 » *collaris* (C)
Coccyzus melanocoryphus (C)
*Piaya cayana nigricrissa*¹ (C w c)
 » *rutila gracilis*¹ (C c)
 **Neomorphus radiolosus*
Semnornis rhamphastinus (C c)
*Rhamphastos swainsoni*¹
Andigena laminirostris
*Aulacorhamphus haematopygius*¹ (C)
Hapaloptila castanea
 **Chloronerypes rubiginosus rubripileus*¹
Veniliornis nigriceps
 » *oleagineus aureus* (C w)
Campophilus pollens (C)
Grallaricula costaricensis (C c)
Synallaxis brunneiceps
 » *pubida*^{1,2} (C c)
Pseudocolaptes boissoneauti (C)
Thripadectes flammulatus (C c)
Xenicopsis temporalis
 **Xiphocolaptes promeropirhynchus crassirostris*
 **Picolaptes lacrymiger aequatorialis*
Xiphorhynchus aequatorialis (C w)
*Campylorhamphus pusillus*¹ (C c)
Agriornis pollens
*Myiotheretes striaticollis*²
*Ochthoeca frontalis*² (C c)
 » *lessoni*² (C w P)
 » *gratiosa* (C)
*Mecocerculus stictopterus*² (C)
 » *poecilocercus* (C)
Caenotriccus ruficeps (C P)
*Lophotriccus squamaecristatus*¹
Pogonotriccus ophthalmicus (C w c)
 **Anæretes parulus aequatorialis*²
Mionectes striaticollis hederaceus (C)
*Tyranniscus cinereiceps*¹ (C c P)
 » *chrysops*¹ (C)

- Elaeena pallatangae*² (P)
Myiobius erythrurus fulvicularis (C w c)
 » *stellatus*¹ (C)
 » *pulcher* (C w)
 » *flavicans* (C)
*Pyrocephalus rubineus*¹ (C)
*Myiarchus nigriceps*¹ (C)
*Milvulus tyrannus*¹ (C)
Masius coronulatus (C w c)
Machaeropterus deliciosus (C w)
 **Tityra nigriceps gualeae*
Rupicola peruviana sanguineolenta
 (C w)
Ampelion arcuatus (C)
 » *cinctus* (C)
Euchlornis melanolaema
 » *jucunda* (C)
 **Thryophilus nigricapillus*¹
 * » *euophrys*
 **Troglodytes albicans*¹
 **Henicorhina hilaris*
 » *inornata* (C w)
 **Myiadestes ralloides plumbeiceps*
 **Merula obsoleta parambana*
Vireo chivi vividior
 » *josephae*¹ (C P)
*Parula pitiayumi pacifica*¹ (C w)
*Myioborus verticalis*¹ (C P)
 » *bairdi*²
*Myiothlypis nigrocristatus*² (C c e)
*Basileuterus tristriatus*¹ (C P)
 » *coronatus* (C w c P)
Catamblyrhynchus diadema (C w c)
*Pheucticus chrysogaster*²
 * » *crissalis*
Catamenia analoides
*Saltator maximus*¹ (C P)
 » *atripennis*¹ (C w c)
 » *striatipectus* (C c)
Spinus capitalis
Brachypiza capensis peruviana (C P)
Arremonops conirostris chrysoma (C w)
Phrygilus plebejus ocularis
Arremon aurantirostris occidentalis
 (C w)
Buarremon brunneinucha (C P)
 * » *spodionotus*
- **Buarremon leucopterus*¹
 » *schistaceus* (C)
 » *assimilis*² (C)
*Coereba mexicana*¹
*Diglossa sittoides*² (P)
 » *lafresnayi*² (C c e)
 » *aterrima*² (C c e)
 » *albilateralis* (C)
 » *indigotica* (P)
*Conirostrum sitticolor*² (C)
 » *fraseri*² (C c)
*Procnias viridis occidentalis*¹ (C)
 **Euphonia cyanocephala pelzelni*
 * » *xanthogaster quitensis*¹
 » *saturata*¹ (C w c)
*Chlorochrysa phoenicotis*¹ (C w c)
 **Iridophanes pulcherrima gualeae*¹
Procnopis vassori (C)
Calospiza rufigula (C w)
 * » *aurulenta goodsoni*¹
 » *vitriolina* (C)
 » *gyroloides bangsi*¹ (C w)
 » *nigriviridis*¹ (C)
 * » *cyanopygia*¹
 » *labradorides* (C)
 * » *parzudakii lunigera*
Iridornis dubusia ignicapillus (C w c)
*Buthraupis cucullata*² (C w c)
 » *chloronota* (C w c)
Compsocoma victorini (C c)
 » *sumptuosa cyanoptera*
 (C c)
*Dubusia taeniata*² (C w c)
*Tanagra cana*¹ (C)
 * » *palmarum violilavata*¹
 » *darwini*
Sporothraupis cyanocephala (P)
*Rhamphocoeus icteronotus*¹ (C w c)
Pyrranga rubriceps (C w c)
Chlorospingus flavicularis (C c e P)
 » *semifuscus* (C w)
*Hemispingus superciliaris nigrifrons*²
 (C c P)
Psittospia riefferi (C)
Ostinops alfredi
Cassidix violea (C)
Cyanolyca turcosa

The letters behind the names, which indicate the distribution, have the same meaning as in the former lists. They prove in a very interesting manner, that the bird life of the subtropical zone of the western side of the Andes of Ecuador has very many forms in common not only with the fauna of western Colombia, but also to a very great extent with the same of the central, or Cauca-Magdalena district of Colombia.

A number of the species here enumerated among the subtropical members of the fauna live near the boundary line between the subtropical and temperate zones, so that they might perhaps be referred just as well to one as to the other of these, although we have our specimens from the subtropical zone. Such are for instance *Penelope montagnei*, *Iridornis dubusia ignicapillus*, *Hemispingus superciliaris nigrifrons*, and some others. In other cases the range of the species extends very plainly through more than one zone, as well according to CHAPMAN'S records as our own experience. With regard to some birds again there is a certain discrepancy as to their occurrence. CHAPMAN records f. i. *Patagona gigas* as characteristic for the Puna zone in Peru, while our specimens are from an altitude of 6000 to 9000 f. The following species are according to CHAPMAN members of the temperate fauna, but we have found that they range very deep down into the subtropical zone f. i. *Ciccaba albogularis* (to 6000 f.), *Vesti-pedes vestitus smaragdinipectus* (to 7000 f.), *Thripadectes flam-mulatus* (to 7000 f.), *Mecocerculus slictopterus* (to 6000 f.), *Procnopis vassori* (to 6000 f.), and *Psittospiza riefferi* (to 5500 f.), while we have no records of these species from the temperate zone.

Some of the birds, which CHAPMAN registers as tropical, we have from the lower parts of the subtropical belt near the boundary line as f. i. *Columba goodsoni*, *Ardea cocoi*, *Ciccaba virgata virgata*, *Machaeropterus deliciosus*, and *Henicorhina inornata* from an altitude of approximately 5000 f.; and *Florisuga mellivora* and *Myiobius erythrurus fulvicularis* from 6000 f. It is also not astonishing to find that some birds, which are bound to water like *Carbo vigua* and *Ceryle amazona* extend their wanderings along the water courses high up to an altitude of 9000 f. from their regular habitat in the tropical zone. It is likewise no wonder although worth noticing, that some birds of prey like *Circus cinereus* (5000—12000 f.),

Climacocercus guerilla interstes (5000—10000 f.), *Accipiter ventralis ventralis*¹ (up to 8500), *Harpagus bidentatus* (5000—7500 f.) extend their hunting expeditions from the tropical to the subtropical, and in some cases even to the temperate zone. There are, however, still some species that are recorded from the tropical zone, but which in this collection are represented from much higher altitudes. Thus *Zenaida auriculata* has been found at 9500 f., *Leptoptila pallida* and *Osculatia purpurata* both at 8500 f., *Coccyzus melanocoryphus* at 8000 f., *Synallaxis pudica* even at 11000 f.

The birds of the Tropical Zone.

1. Eastern species.

| | |
|---|--|
| <i>Tinamus ruficeps</i> (C c e P) | * <i>Campylopterus villavicencio</i> |
| » <i>guttatus</i> | <i>Chrysuronia oenone</i> |
| <i>Notocraux urumutum</i> | <i>Thaluranía nigrifasciata</i> (C e) |
| <i>Penelope jacquacu jacquacu</i> (C e P) | * <i>Ionolaema schreibersi</i> |
| <i>Pipile cumanensis</i> (C e P) | <i>Popelairia langsdorffi</i> |
| * <i>Odontophorus söderströmi</i> | <i>Lophornis reginae</i> |
| <i>Psophia napensis</i> (C e) | <i>Rhamphastos cuvieri</i> (C e) |
| <i>Amazona ochrocephala</i> (C e) | » <i>culminatus</i> (C e) |
| <i>Pionopsittacus barrabandi</i> | <i>Pteroglossus pluricinctus</i> (C e) |
| <i>Threnetes cervinicauda</i> (C e) | » <i>flavivirostris</i> (C e) |
| <i>Campylopterus obscurus aequatorialis</i> | <i>Selenidera reinwardti</i> (C e) |
| (C e) | <i>Ocyalus latirostris</i> |

2. Western species.

| | |
|--|---|
| <i>Odontophorus parambae</i> (C w) | * <i>Eutoxeres aquila baroni</i> |
| <i>Claravis pretiosa</i> (C) | » <i>Argyrtria amabilis</i> (C w) |
| <i>Eurypyga major</i> (C w) | * » <i>reini</i> |
| <i>Cancroma zeledoni</i> | * <i>Amazilia dumerili</i> |
| <i>Ara ararauna</i> (C) | * <i>Damophila juliae felicianae</i> |
| * <i>Conurus rubrolarvatus</i> | <i>Chlorostilbon melanorhynchus</i> (C w) |
| » <i>leucophthalmus</i> | * <i>Thaluranía hypochlora</i> |
| <i>Amazona inornata</i> (C w) | * <i>Anthracothorax violicauda iridescens</i> |
| <i>Pionus corallinus</i> | * <i>Vestipedes lugens</i> |
| <i>Pionopsittacus pulcher</i> (C w) | * <i>Heliothrix aurita major</i> |
| * <i>Momotus lessoni gualeae</i> | » <i>barroti</i> (C w) |
| * » <i>microstephanus argenticinctus</i> | * <i>Floricola albicrissa</i> |
| <i>Urospatha martii semirufa</i> (C) | <i>Myrmia micrura</i> |
| <i>Androdon aequatorialis</i> (C w) | <i>Chaetocercus bombus</i> |
| <i>Phaethornis guyi</i> | * <i>Popelairia conversi aequatorialis</i> |
| * » <i>yaruqui</i> | <i>Trogonurus curucui atricollis</i> |
| * » <i>atrimentalis</i> | <i>Trogon strigilatus chionurus</i> (C w) |

¹ Confer also below the discussion about *A. v. nigroplumbeus*.

| | |
|---|---|
| <i>Tapera naevia excellens</i> | <i>Myrmelastes immaculatus berlepschi</i> |
| * <i>Capito bourcierii aequatorialis</i> | (C w) |
| * <i>Rhamphastos ambiguus abbreviatus</i> | <i>Todirostrum sclateri</i> (C w) |
| (C w) | <i>Myiobius barbatus atricaudus</i> (C w c) |
| * <i>Pteroglossus erythropygius</i> | <i>Cephalopterus penduliger</i> (C w) |
| <i>Melanerpes pucherani</i> (C w) | <i>Chlorophanes spiza exul</i> (C w) |
| * <i>Veniliornis callonotus</i> | <i>Calospiza venusta</i> (C) |
| <i>Campophilus gyaquilensis</i> | <i>Pyrranga ardens</i> (C w) |
| » <i>haematogaster splendens</i> (C w) | |

The list recording our specimens from the tropical zone of Eastern Ecuador proves very plainly, that the affinities with the fauna of the »Amazonian» district of Colombia (C e) are very great. The remaining species, as far as they are not endemic (marked with an asterisc), are found in Brazil or eastern Peru, but not a single one is recorded from the western side of the Andes. Although the number of tropical birds in this collection is small, this may be considered as a general rule.

The list of the species from the tropical zone of Western Ecuador shows a rather great number (17) of endemic forms (chiefly Colibris), and just as many are also at home in the Pacific region of Colombia. Seven have a rather wide distribution and are found in Colombia as well. Two species have ranged down from Central America and are hitherto not recorded from Colombia nor from Ecuador. Three species extend their distribution into Peru, but do not belong to the Colombian fauna.

These notes may be of certain interest, although the present material from the tropical zone of Ecuador is far too scanty to give any general view of the bird life there.

In addition to the above lists of resident birds the following enumeration of the migrants may be of interest:

| | Tropical | Subtropical | Temperate | Páramo |
|--|----------|-------------|-----------|--------|
| <i>Porzana carolina</i> | — | + | — | — |
| <i>Oxyechus vociferus</i> | — | + | — | — |
| <i>Numenius hudsonius</i> | (+) | + | — | — |
| <i>Totanus melanoleucus</i> | — | + | — | — |
| » <i>flavipes</i> | — | + | — | — |
| » <i>solitarius</i> | — | + | — | — |
| <i>Tringoides macularius</i> | — | + | — | — |
| <i>Bartramia longicauda</i> | — | + | — | — |
| <i>Tryngites subruficollis</i> | — | + | — | — |
| <i>Heteropygia maculata</i> | — | + | — | — |

| | Tropical | Subtropical | Temperate | Páramo |
|--|----------|-------------|-----------|--------|
| <i>Heteropygia bairdi</i> | — | + | — | — |
| <i>Querquedula discors</i> | — | — | + | — |
| <i>Nyroca affinis</i> | — | — | + | — |
| <i>Buteo swainsoni</i> | — | — | + | — |
| » <i>platypterus</i> | — | + | + | + |
| <i>Elanoides forficatus</i> | + | — | — | — |
| (<i>Asio flammeus</i>) | — | + | + | — |
| <i>Coccyzus americanus</i> | — | + | — | — |
| » » <i>occidentalis</i> | — | + | — | — |
| » <i>erythrophthalmus</i> | — | + | — | — |
| <i>Tyrannus tyrannus</i> | — | + | — | — |
| <i>Hirundo erythrogaster</i> | — | — | — | + |
| <i>Hylocichla swainsoni</i> | — | + | — | — |
| <i>Dendroeca aestiva</i> | — | + | — | — |
| » <i>blackburniae</i> | — | + | — | — |
| <i>Zamelodia ludoviciana</i> | — | + | — | — |
| <i>Pyrranga rubra rubra</i> | + | + | + | + |

This table shows that the greatest number of migrants is to be found in the subtropical and temperate zones, and several of them appear to live just near the boundaries between these two. One species is found in all zones and two in the Páramo and only one is seemingly restricted to the tropical. The small number of migrants from the tropical zone is explained by the fact that only a little collecting work has been done there in this connection.

In his work »Étude des oiseaux de l'Équateur» in »Mission d. serv. geogr. pour la mes. d'un arc de meridien équatorial en Amerique du Sud», M. MENEGAUX, 1911, reported about the occurrence of 274 species of birds from Ecuador. With regard to the distribution of the bird-life he recognizes four »zones», but his zoogeographical districts are not the same as those, which we have used above. He speaks about a western and an eastern »tierra caliente», the inter-Andean valley, which forms »tierra templada», and finally the »páramo» or »tierra fria». We have on the other hand used the same division into zones as the botanists do, and which is based on the distribution of the plant-life, in a similar way as CHAPMAN has done when reporting on the bird-life of Colombia. Although of course MENEGAUX's enumeration of the species of birds in the different zones according to his system are of great value,

they are not directly comparable with ours, because we have looked at the distribution from a different point of view.

Having thus given a general review of the zonal distribution of the species and subspecies of birds in this collection, we now proceed to enumerate them together with the notes about the localities, where they have been collected, which have been furnished by Consul SÖDERSTRÖM. In several instances he has also added remarks of value about the occurrence of the different species based on his long experience about the fauna of Ecuador, and these are then also quoted.

The descriptions of the new forms together with discussion of some others are also to be found in the following pages.

With regard to the order of the species we have followed BRABOURNE and CHUBB: »The Birds of South America». London 1912.

Tinamus robustus inexpectatus BRAB. & CHUBB. — ♂ & ♀ collected resp. 2 & 4 Aug. near Gualea altitude 4000—5000 f., and also a specimen from the slopes of Mojanda altit. 9000 f. Two of these specimens have the feathers of the nape subapically tinged with rufous. An egg presumably of this race from Santo Domingo de los Colorados, $\frac{1}{12}$, measures 63,8 × 47,7 mm. It is beautiful greenish-blue.

Tinamus ruficeps SCL. & SALV. — ♂ & ♀ $\frac{20}{11}$, 1 ♂ $\frac{10}{2}$, near Rio Napo, altit. 3000 f.

Tinamus guttatus PELZ. — 1 ♀ $\frac{10}{2}$, near Rio Napo, altit. 3000 f.

Nothocercus julius BP. — 1 ♂ $\frac{5}{12}$, 1 ♀ $\frac{25}{2}$, below Lloa, slopes of Pichincha, altit. 9000 f.

1 ♂ $\frac{15}{12}$, 1 ♀ $\frac{13}{6}$, Algonquinche, southern side of Mojanda, 9000 f.

1 ♂ $\frac{10}{3}$, Maspa below Papallacta, 8500 f.

These specimens have all of them the secondaries barred only on the outer web and thus they cannot be referred to *N. julius salvadorii* (fide CHAPMAN, 1921).

Nothocercus plumbeiceps n. — 1 ♂ $\frac{11}{12}$ 1916, Baeza, road to Napo, 5500 f.

— This birds appears to be most closely related to *Notho-*

procta nigrocapillus GRAY, and might possibly be a subspecies of the same. It has the whole head and nape dark grey, somewhat similar to RIDGWAY'S »deep Mouse gray» (1912). Unlike in *N. nigrocapillus* this colour prevails on the sides of the head as well, although the paler bases of the feathers may shine through in the preserved specimen. This same grey colour extends also somewhat on the foreneck, so that it forms a collar below the dirty whitish throat. The upper mantle finely vermiculated with dull rufous on a brownish-black ground-colour. Towards the upper back the wavy black and rufous bands become somewhat coarser and more pronounced, at the same time as some widely scattered, very small white spots appear. This pattern extends also over the lower back and the upper tail-coverts, but the white spots are a little larger there, although not numerous. Scapulars also similar. The upper wing-coverts are brighter, vermiculated with black and dull rufous and with numerous buffish spots accompanied with black spots, both of which have a tendency to form transverse irregular bars on the greater coverts. The primaries are dark brown with irregular, more or less wavy bars on the outer web, and vermiculated with the same colours on the inner web. The secondaries darker with less numerous buffy bars on the outer web and with vermiculations between them, but with the inner web uniformly blackish. Chest below the dark grey collar, and breast cinnamon rufous with some wavy dark bars on the concealed parts of the feathers. Remaining under parts transversely barred with buff (paler on the hindmost parts) and dark brown. Wing 170, tarsus about 57 mm.

Nothoprocta curvirostris SCL. & SALV. — 1 ♀ $\frac{1}{2}$, Singuña, northern side of Pichincha, 10000 f.; 1 ♂ $\frac{10}{2}$, 11000 f.; 2 ♂♂ $\frac{1}{6}$ & $\frac{3}{12}$ above Quito 11000 f. 1 ♀ $\frac{31}{10}$, 11500 f.; 1 ♀ $\frac{31}{10}$ Fanlagua above Guallabamba river, 8500 f.

This is evidently an alpine species which always lives at a great altitude and also breeds there. A young specimen collected on the northern side of Cotopaxi at an altitude of 11000 feet proves the latter fact.

Consul SÖDERSTRÖM has also presented four eggs of this species measuring $52,3 \times 37,3$; $51,8 \times 37,2$; $52,6 \times 37,8$; $57,2 \times 39$ mm. They have been collected on Pichincha at an altitude of 11500 f., $\frac{10}{3}$ 1921.

Crypturus soui modestus CAB. — A specimen (rather young) from Gualea 5000 f., collected $\frac{7}{9}$.

Nothocrax urumutum SPIX. — ♂ & ♀ $\frac{4}{10}$, near river Curaray, 1000 f. These specimens differ from the description in having the primaries uniformly coloured not vermiculated on the outer web.

Penelope montagnei BP. — 3 ♂♂ & 1 ♀ $\frac{14}{1}$ woods at Piganta, western side of Mojanda, 8600—9000 f.; 1 ♂ & 1 ♀ end of July, southern slopes of Mojanda, 9000 f.; ♂ & ♀ $\frac{7}{11}$ foot of Mojanda 9000 f.; 1 ♂ $\frac{10}{7}$ below Nono 9000 f.

Penelope æquatorialis SALVAD. & FESTA. — 1 ♂ $\frac{6}{8}$, Gualea, 4000 f.; 1 ♂ $\frac{7}{11}$ below Nanegal, same altitude.

Penelope jacquacu jacquacu SPIX. — ♂ & ♀ $\frac{20}{9}$, along river Curaray, 1000 f. Wing about 290 mm.

Pipile cumanensis JAQU. — ♂ & ♀ $\frac{4}{9}$, along middle part of river Coraray, 1000 f.

Chamaepetes goudoti goudoti LESS. — 6 males and 2 females from the woods at Piganta, western side of Mojanda at an altitude of 8500—9000 f. collected in the months January, May and November; 1 ♂ & 1 ♀ road to Gualea 5500 feet collected $\frac{10}{7}$. The length of wing of 4 of these specimens is resp. 226, 230, 237, and 238 mm.

Consul L. SÖDERSTRÖM writes about this species: »Generally found at Gualea, Nanegal and Mindo 4000—5000 f. altitude, but in the seasons when fruits and berries are ripe in the woods at Piganta (Mojanda) etc. these birds come in great numbers to an altitude of about 9000 f. Naked areas in the face of the male bright blue.»

Chamaepetes goudoti tschudii TACZ. — 1 ♂ from Baeza, road to Napo, about 6000 f. Length of wing 262 mm. This is evidently an eastern race.

Odontophorus melanonotus GOULD. — 3 males and 2 females collected in the neighbourhood of Gualea at an altitude of 4500—5000 f. in the months of Febr., May and August; 1 male from Nanegal 5000 f., $\frac{20}{6}$.

Odontophorus parambae ROTSCH. — 1 ♂ $\frac{3}{8}$, 1 ♂ & 1 juv. $\frac{6}{10}$, Gualea, 3000f.; 1 ♂ $\frac{20}{3}$, 1 ♂ $\frac{4}{4}$ below Mindo, 3000—3400 f. and two specimens from Santo Domingo de los Colorados

(collected i March and April) 2—3000 f. It will thus appear, as if this species lived at a lower altitude than the foregoing.

The young may be described as follows: Forehead coloured like pileum, not rufous, but dark brown minutely sprinkled with greyish buff like the upper back. Sides of head and superciliary stripes paler rufous than in the adult. Chin and throat not uniformly black, but somewhat barred with rufous. The white band not developed. Breast and belly chestnut rufous, but sides of chest and flanks rather broadly barred with black and the barred feathers, at least partly provided with light rufous shaft-stripes. Scapular region like that of the adult bird, but more rufescent, and the anterior scapulars provided with buffish white shaft stripes. Lower back and upper tail-coverts dark brown with a fine sprinkling of rufous. The bill is in dry state reddish yellow.

Odontophorus söderströmi n. sp. — 1 ♂ $10\frac{1}{7}$ 1920, near Napo 3—4000 f.

Upper parts of head and nape dark chestnut brown. The posterior supraciliary and supraauricular region somewhat more chestnut rufous without that a distinct band is formed. Upper parts and sides of neck chestnut red, mottled with black and with some slight sprinkling of white. Many feathers have fine white shaft-stripes, which are more or less concealed. The general colour of the back and rump buffish grey brown, which is produced by a mottling of black and buff. Across the interscapular region there is a band of larger black, buffish-edged blotches. On the lower back there are to be seen smaller black subapical spots and the feathers are more or less tipped with buff. The anterior scapulars with a more greyish mottling on the outer web, white shaft-stripes (also present in the inter-scapular region) and with large black blotches edged with rufous buff on the inner web. On the longer scapulars the black blotches gradually develop into subapical bands, and the longest ones are also broadly tipped with ochraceous on the inner web. Small wing-coverts more buffy brown than the back and with buffish white shaft-stripes, which on the greater coverts develop into whitish apical spots bordered with a black subapical spot. Quills blackish brown with buff mottlings on the outer web, which on the secondaries have a tendency of forming transverse bars. Chin and throat transversely banded with rusty red

and blackish. Lower parts otherwise rust red (Rép. de Coul. 318), a darker shade (318,4) on the chest, a somewhat paler (318,1) on the middle of the breast. An indistinct transverse barring with dusky on the flanks and on some feathers of the belly. Sides of rump transversely mottled and barred with dark brown and buff. Under tail-coverts dark brown mottled and tipped with rufous. Tail-feathers black transversely mottled and banded with buff. Bill black, feet in dry state blackish horn-coloured. Length of wing 136 mm. (when straightened and pressed to the table 141 mm.). Culmen 18,8 mm. Tarsus 48 mm.

Columba albilinea BP. — 1 ♂ $^{18}/_3$, above Nono 10500 f.; 2 ♂♂ $^{14}/_{12}$, above Lloa 11000 f.; 1 male & 2 females Febr., April and Aug Pichincha 11000 f.; 1 ♂ $^{5}/_7$, western side of Mojanda 10000 f.; 1 ♂ $^{20}/_5$, near Cumbaya river, 8000 f.

Columba goodsoni HART. — 1 ad. $^{20}/_8$, 1 juv. $^9/_4$, Gualea 5000 f. Wing of the former 154, of the latter 146 mm.

Columba plumbea bogotensis BERL. & LEVERK. — 4 males and 2 females in different months from March to Dec. Mindo, 5500—6000 f. Wing 167—174 mm.

Columba subvinacea berlepschi HART. — 1 ♂ $^{24}/_5$, Nanegal 6000 f.; 1 juv. $^{10}/_4$, Gualea 5000 f. Wing of the former 146, of the latter 143 mm.

Zenaida auriculata DES MURS. — 5 males from outside Quito, 9400—9500 f.; 2 males and 1 female from Cumbaya 6 miles east of Quito, 8000 f.; 1 ♂ & 1 ♀ from Chaupicruz 4 miles north of Quito.

This species is found near Quito the whole year according to Consul SÖDERSTRÖM. A semialbinistic specimen from Quito is very pale, but has nevertheless retained the metallic gloss on the sides of the neck. The local name of this bird is »Tortola».

Chaemepelia passerina quitensis TODD. — 3 males and 3 females from Zambiza 6 miles northeast of Quito, 7500 f. July to Oct.; 1 ♂ & 1 ♀ $^{24}/_8$, Pomasqui 12 miles north of Quito 8500 f.; 6 males and 3 females from Cumbaya; July to Sept.; 1 ♂ & 1 ♀ $^3/_6$ from Tumbaco, 7600 f.

»Found in all dry and sandy places, mostly in July and Aug. They always run on the ground and do not fly much.»

»Abundant in the months mentioned, found at an altitude of 6000—9000 f. most common at 8000 f.»

Chaemepelia buckleyi SCL. & SALV. — A young specimen without locality $\frac{1}{7}$ 1900. It has a slight wash of pale cinnamon on the inner web of the 5 inner primaries, more conspicuous on the lower side and on the shaft.

Claravis pretiosa FERARI-PEREZ. — 1 ♂ juv. $\frac{28}{9}$ Babahoyo 150 f. We cannot detect any difference in shade with regard to the grey of the under parts of this specimen when compared with a typical *Claravis pretiosa* from Guatemala.

Metriopelia melanoptera saturator CHUBB. — 3 males and a female from Tablon, road to Papallacta, 1200—13000 f., Nov. and Jan.; 2 ♂♂ $\frac{20}{6}$ Sananlajas, foot of Chimborazo, 13—13500 f.; a male and 2 females from Illiniza 11000—13400 f. April and Aug. Consul SÖDERSTRÖM has further communicated about this species that its local name is »Tortola del Páramo», which it undoubtedly deserves to judge from its occurrence. »It is found on Chimborazo, Cotopaxi etc., but strange to say not on Pichincha and seldom below 13000 feet. It lives in parties of 8—11 and rises with a whirr like partridges.»

»A patch under the eye is pale yellow.» A specimen from Tablon is somewhat vinous on the lower side, although it is labeled as female.

Leptoptila verreauxi occidentalis CHAPMAN. — 3 males and 2 females from Cumbaya, 6 miles east of Quito, about 8000 f., Febr., May and Dec.; 2 ♂♂, below Nono, 8—9000 f., Febr. and May; 1 ♀ on road to Gualea, 8000 f., Aug.; 1 ♂ on road to Nanegal 8000 f., Febr.

The native name is »Toguna» or »Tuguna», and this species is evidently to be found at the altitude of 8—9000 feet the whole year round, on the western side of the Andes.

Leptoptila pallida BERL. & TACZ. — 1 ♂ $\frac{10}{9}$ below Nono, 8500 f. Consul SÖDERSTRÖM has written on the label the following: »Lives in pairs, found in shady places generally on the ground, does not take flight unless suddenly disturbed. The flesh is very white and palatable.» These items refer no doubt to the foregoing species as well.

Osculatia purpurata SALV. — Of this beautiful species

there is a male from Santo Domingo de los Colorados ($\frac{21}{11}$), 2000 f. and a female from Piganta ($\frac{14}{1}$) 8500 so that it appears to live at very different altitudes.

Oreopeleia bourcierii BP. — 2 males and 2 females from the woods at Piganta, western side of Mojanda 8500—9000 f. collected in the months of Nov., Dec. and Jan. A young bird from the same locality is collected $\frac{15}{1}$. From Alonquinche, southern slopes of Mojanda and about the same height there are 2 males and a female from the months of Aug. and Nov., and in addition to these a halfgrown young of $\frac{24}{8}$. This proves, that this species propagates at least twice a year.

Oreopeleia montana LIN. — 1 ♂ $\frac{8}{9}$, near Gualea 4500 f.; 1 ♀ & 1 juv. $\frac{16}{6}$, Nanegal 6000 f.

Rallus virginianus aequatorialis SHARPE. — 5 males and 3 females from Jaguaracocha near Ibarra, 8000 f., all from July; 1 ♂ $\frac{24}{3}$, from Iliniza, northern side. It appears rather uncertain whether this form can be maintained even as a subspecies, because among all these specimens there is none which has »the lateral tail-coverts pure white» the white as a rule being confined to the outer web alone. As, however, the specimens recorded from the month of July must be breeding birds (not migrants) we have preferred to retain the name *aequatorialis*, until this question can be fully solved on material from more and different sources.

Porzana carolina LIN. — 6 males and 1 female from La Carolina, 3 miles north of Quito, 9400 f., collected in the months Jan., Febr., March and one from $\frac{10}{4}$; 10 ♂ $\frac{24}{3}$ from the northern side of Mt. Iliniza. These are no doubt all migrants from the north, and it is of interest that they have chosen a winter-resort at such a high altitude.

Gallinula galeata BP. — A female from La Carolina $\frac{16}{3}$ has the length of wing 172 mm. This specimen is certainly a migrant, and the same is probably the case with a young female found at the same place $\frac{9}{5}$ considering the natural conditions of the place mentioned (conf. below). On the other hand a male collected at the lake of San Pablo, prov. Imbabura, 8000 f., $\frac{16}{6}$ must be assumed to be a resident bird to judge from the season of the year at which it has been

found, because northern birds must have returned in the middle of June. The length of the wing of this latter is only 167 mm.

About La Carolina Consul SÖDERSTRÖM has communicated the following: »La Carolina is a small marshy place outside Quito (5 kilometers distant north). In the rainy season it is covered with water and many ducks and other water-fowls alight there. The people living in the huts along the road are always on the lookout for the birds and almost invariably kill them within an hour or so about of their arrival. The ducks are now never left to breed there. All the specimens labeled La Carolina have been collected there, but their breeding places may be very far away.»

Ionornis martinica LIN. — 3 males, 2 females and a young specimen collected at La Carolina in Febr. and March. One of the specimens is in transgression from the juvenile plumage.

Fulica ardesiaca TSCHUDI. — A female of $\frac{18}{4}$ and a female and a young bird from Nov. all collected in Lake Mica, Antisana, 13500 f. have a pale shield and may be referred to this species with full certainty. It is said to occur in all the small lakes from 9 to 14 thousand feet. »Formerly very common at Jaguaracocha near Ibarra but there is none in the lake now.» (L. S. 1920.) Native name »Gallareta».

1 male and 2 young specimens from La Carolina resp. May and Nov.; 1 male from Jaguaracocha, 8000 f. $\frac{14}{11}$; 1 from a small lake at Antisana, $\frac{7}{9}$.

All the adult of these have red shields and green legs. The difference in the colouring of the shields of these different specimens is very striking. Various authors have also recorded different colours as characteristic for the frontal shield of this Coot. It is, of course, very difficult to offer any exact explanation of this, when one has not had the opportunity of observing the birds under their natural conditions. It may, however, be assumed, that the bright red and strongly swollen shields belong to breeding males, and that those that are pale belong to females and young birds.

Podiceps calipareus LESS. — 4 males and 1 female from Lake Mica, western side of Antisana, collected in the months of Jan., April, June and Sept. »Iris pink.» It is according to Consul SÖDERSTRÖM still common, but only found in lakes

at high altitudes. As a rule occurring in small parties from 2 to 6. »They are expert divers, but the flesh is very tough.»

A male killed $^{11}/_6$ has the throat and the cheeks distinctly greyish, while another from the same date has these parts pure white like the others. It seems thus rather difficult to maintain any difference between *P. calipareus* and *P. c. juninensis* BERL. & STOLZM.

Podilymbus podiceps LIN. — A female $^{7}/_2$, La Carolina.

Larus serranus TSCHUDI. — A male from Arcadia 6 miles south of Quito, 9700 f., and male and female from Lake Mica, Antisana, 13500 f., all collected in April. It is also stated on a label that these birds only show themselves at these localities during the later part of April and beginning of May. From the latter locality there is, however, also a young specimen collected $^{23}/_7$. This is apparently an exception, because concerning another young bird, no doubt of this species, from La Carolina $^{27}/_4$ there is a similar statement on the label: »found at small lakes in the interior, a few come to La Carolina in April and May, now scarcely».

Attagis chimborazensis SCLATER. — 3 males resp. $^{24}/_2$, $^{10}/_5$ and $^{26}/_{11}$; 4 females resp. $^{24}/_8$, $^{30}/_{10}$, $^7/_{11}$ and $^{26}/_{11}$; a less than halfgrown chick $^{20}/_{10}$. All these specimens are from Pichincha from an altitude between 14500 and 15000 feet below the snow-limit, where they live among the stones and sand thrown out from the crater. Consul SÖDERSTRÖM has never seen them below 14000 feet. They live thus in the alpine zone just like the Ptarmigans of the North. There appears also to be a certain resemblance between both with regard to the somewhat irregular moult, although, of course, *Attagis* has no third white plumage. The feathers of the back display two different patterns, viz. one with the greater part of the feather mottled, and another with the feathers provided with a marginal and usually also a submarginal band (in some cases even partly traces of a third). In the fresh feathers these markings are more or less strongly buff-coloured, but they fade gradually to whitish in the old feathers. The marginal band has often become completely worn off in the old feathers. That the buff markings fade to whitish may be concluded from the fact that feathers displaying markings of the latter colour always are more worn than those with buff ones. Now, all specimens

on hand have as well new feathers with buff markings as old, i. e. worn feathers with whitish markings. The specimen from Aug. has chiefly mottled feathers on the back and these are freshly moulted; some of them have not even grown out to their full size. The specimen from $7/_{11}$ has many mottled feathers on its back, but these are comparatively much worn, always more than the banded feathers, which also are present. On the same specimen new feathers are also growing out, and these are of the banded pattern. The specimen of the $26/_{11}$ has only a few strongly worn mottled feathers left. The majority of the feathers of this specimen displays the banded pattern, but even these are not of the same age, some being already more or less bleached with whitish markings and worn, ragged edges, while others are quite fresh with buff-coloured markings and entire edges. The specimen from June as well has old feathers mixed in among the new. From these facts it may be concluded that the moulting extends over a comparatively long period, that it is partial, and that at this locality the mottled feathers appear to belong to the plumage of the months Aug. to Nov.

The latter period may be the pairing season, although the same might be a little irregular as well. On the label of the female from $30/_{10}$ Consul SÖDERSTRÖM has written, that it had contained an egg, although this had been crushed by the Indian, who had killed the bird. But the young chick of this collection has been found $20/_{10}$. The latter is partly in down, especially on the chest, neck, crissum and rump. The sides of the nape is also in down, coarsely mottled with blackish and greyish white. The feathered parts of the lower side is with regard to its colour rather similar to the same parts of the adult bird, but the pinkish cinnamon ground-colour is perhaps slightly paler. The upper back is black with pale buffy edgings and subapical bands to the feathers. The wing-coverts and the tertials are broadly margined with a shade of pinkish cinnamon, which is a little paler than the colour of the lower parts. In addition to these margins there is also an inframarginal band of the same colour on each feather.

CHUBB has used the name »*latreillei*» for the *Attagis* of Chimborazo, thus identifying it with the bird, which LESSON 1831 described under the name *Attagis latreillii* from a col-

lection received from Buenos Aires. As we have not been able to convince ourselves about the identity of LESSON's type with our specimens, we have preferred to use SCLATER's name.

CHUBB has established a new subspecies *A. gayi simonsi* for birds from the Titicaca Basin, Peru. This is said to be mottled with grey instead of buff, and the marginal and sub-marginal lines on the feathers of the fore-neck paler etc. Without discussing the validity of this subspecies we wish to draw attention to the above stated facts, viz. that mottled and banded feathers occur in the same bird, and that the colours of the feathers are subjected to fading from buff to whitish, as the feathers become older and more worn.

CHUBB has also said that his new race should be rather larger than the *Attagis* of Ecuador. The length of wing of the Titicaca race is stated to be 189 mm. in the male, and 192 in the female, while SCLATER's bird had this measurement 7,3 inch. or about 185 mm. This apparent difference in size is, however, according to our experience of rather little value. We base this opinion on the fact, that the specimens of the present collection have with only one exception larger wing-measurements even than »*simonsi*». The length of wing is in the females from Pichincha from 193 to 197 mm., and in the males resp. 186, 193 and 202 mm. Even if the last of these by mistake should have been wrongly sexed, their superiority is clear, but we consider this to be only individual variation.

Concerning the habits of the *Attagis* of Pichincha Consul SÖDERSTRÖM has communicated the following. »These birds are found outside the crater in coveys of from 3 to 7. They fly very rapidly and feed on the seeds of a lupine named by the natives »*fraglejon*», and also on green leaves of plants. They nest among stones and sand. Female larger than male, 14—16 ounces.»

Ptiloscelis resplendens TSCHUDI. — 2 males, 3 females, July—Aug., Chaupicruz, 5 miles north of Quito, 9300—9450 f. 1 male $\frac{4}{7}$, Chilogalla 3 miles south of Quito, 1 male $\frac{20}{7}$, slopes of Antisana, 11000 f.

Oxyechus vociferus LIN. — 1 ♂ $\frac{4}{12}$ Chillo valley, at San Pedro river, 8500 f.; ♂ & ♀ $\frac{20}{2}$ La Carolina. These are evidently migrants.

Numenius hudsonicus LATH. — A female from La Carolina $^{18}/_{10}$ 1910. »Occurs only during the rainy season, but has been seen there for 5 years. Common at Guayaquil river.»

Totanus melanoleucus GML. — 1 male, 2 females from La Carolina in Oct.

Totanus flavipes GML. — 3 specimens collected in Oct., 2 in Dec., and 1 in May at La Carolina. One from Tumbaco at San Pedro river, 7700 f. collected $^{10}/_{9}$. These are all migrants found in the natural season for such birds, but it is more strange to find in this collection a female reported from Mindo (6000 f.) the 20th of June.

Totanus solitarius WILSON. — 4 specimens from La Carolina Jan., Febr. and March. 1 ♂ & 1 ♀ $^{15}/_{4}$ from Chilco, San Pedro river. This bird is so well known that it has received a native name »Chirilillo».

Actitis macularia LIN. — 1 ♀ $^{14}/_{5}$, 1 ♂ $^{19}/_{6}$, 1 ♂ juv. $^{10}/_{7}$, 1 juv. $^{7}/_{11}$, La Carolina; 2 males & 2 females $^{18}/_{10}$ along river San Pedro 8000 f.; 1 ♀ $^{11}/_{4}$ Machangara 8700 f.; 1 unsexed $^{21}/_{11}$ Mindo 5500 f. This series is of a considerable interest because several of the birds are in the spotted, breeding plumage. This is f. i. the case with a female of $^{19}/_{11}$, and the specimen of $^{21}/_{4}$. These two may be assumed to have retained their summer-plumage beyond the usual time. The female of $^{11}/_{4}$ has begun to moult into breeding plumage as it shows some few spots, but the male of $^{19}/_{6}$ is in quite full breeding plumage and it appears therefore rather probable, that it has been breeding at the locality, where it was collected, because there is no possibility that it should have been able to return south to that date after an unsuccessful breeding in the north, and still less after a successful one. It may thus be regarded as possible, although the actual nest has not been found, that this species in an analogous manner as the palearctic one has been stated to do in East-Africa, at least occasionally, breeds in the Andes of Ecuador. For the probability of such a hypothesis may also speak the fact, that this collection contains a young bird collected as early as $^{10}/_{7}$, thus at a date, when a young bird of northern origin hardly could have had time to arrive there.

 *Bartramia longicauda* BECHST. — 1 ♂ $^{20}/_{3}$, Chaupicruz,

near La Carolina; 1 ♀ $^{10}/_8$ Carapungo above Zambiza 8600 f.
 »Found feeding on the sandy plains of Carapungo far from water, generally found alone.»

Tryngites subruficollis VIEILL. — 2 females $^{10}/_7$, plains of Carapungo 8 miles east of Quito, 8500 f. As this species is an Arctic breeder this date seems remarkably early.

Heteropygia maculata VIEILL. — 2 males and 1 female resp. $^{18}/_{10}$, $^{28}/_{10}$ and $^4/_{11}$ La Carolina.

Heteropygia bairdi COUES. — 7 specimens from La Carolina collected in the months Oct., Nov., Jan., Febr. and March but also one from $^7/_6$, which is a rather remarkable date. 1 sp. $^7/_{10}$ from Tumbaco, San Pedro river, 7800 f.

Gallinago nobilis SCL. — 1 ♂ $^5/_{10}$ Tumbaco east of Quito, 8500 f.; 1 ♂ $^{22}/_{11}$ northern side of Guamani road to Papallacta 11000 f.; 1 ♂ & 1 ♀ $^{20}/_5$. Pichincha 12000 f.; 2 ♀♀ $^2/_4$ northern side of Cotopaxi 12000 f. Local name »Zumbador».

Gallinago jamesoni BP. — 6 specimens from Pichincha and its surroundings 11—12000 f. collected in the months Oct., Dec., Jan. and Febr.

Eurypyga major HARTL. — 2 specimens resp. $^3/_1$ and $^{20}/_{11}$ Santo Domingo de los Colorados, 3000 f. »Found in marshy places along the river. When flushed among the reeds it flies up, but is lost sight of immediately.»

Only in one of the specimens there is a single small chestnut rufous spot on the inner web of the first primary on the black between the two light bars.

Psophia napensis SCL. & SALV. — 1 ♂ & 1 ♀ $^{20}/_{10}$ Rio Curaray 1000 f.

Theristicus branickii BERLEPSCH & STOLZM. — 2 females from Jan., 3 males from Sept. and April, Lake Mica, Antisana and its surroundings, 13—14000 f. Local name »Banduro».

»Found along the shores of Lake Mica, formerly very abundant, but now rather scarce. They build their nests on the cliffs of Antisana, 14—15000 f. Also found at Valley Vicioso, northeastern side of Cotopaxi. It breeds there among the rocks below the snow limit. It is fond of visiting places where cattle is grazing.» (L. S.)

Tantalus loculator LIN. & auct. — On the label of a young

male killed near La Carolina $^{12}/_4$ 1914 Consul SÖDERSTRÖM has written: »None of these birds has been observed here during these last 45 years, only this one, which seemed »very tired«. In a corresponding manner he has written on the label of a similar specimen from the same locality $^4/_3$ 1915: »This year 7 specimens came to La Carolina, being a very rare bird here, all 7 were killed at once. When brought here only one remained in a fair state.» According to BRABOURNE & CHUBB it has not been known from Ecuador before.

Ardea cocoi LIN. — 1 ♂ $^{20}/_3$, River Mindo 5000 f.

Casmérodus (Herodias) egretta WILSON. — 1 sp. $^{20}/_6$, La Carolina. In full nuptial plumage.

Florida coerulea LIN. — 4 youngish birds from La Carolina collected in the months Nov., Dec. and March.

Nycticorax tayazu-guira VIEILL. — 2 males & 2 females from La Carolina Jan., March and April. 2 males from Chilco, San Pedro river, 8500 f. Dec. and March. All these are birds in full plumage, but one of the males from La Carolina is rather purplish violet on its back. One of the females and one of the males from Chilco are conspicuously more whitish below than the others, so that they form a transgression to *N. nycticorax* in this respect.

A young female collected $^{10}/_1$ is not yet in quite full plumage.

4 male and 2 female specimens in juvenile plumage collected in March, April, June, Aug. and Dec. at La Carolina. Native name »Guacava».

Cancroma zeledoni RIDGW. — 2 specimens rather young, resp. July 1908 and Oct. 1909 from Rio Blanco below Mindo, 3000 f. »Very rare». This appears to be the most southern occurrence of this otherwise Central American species.

Butorides striata LIN. — 1 ♂ $^{20}/_1$, 1 ♂ $^{20}/_2$, 1 ♂ $^{16}/_3$, 1 ♂ $^{19}/_3$, 1 ♂ 1 ♀ $^{10}/_4$, 1 sp. $^{14}/_5$, 1 ♂ $^{22}/_6$, 1 ♀ $^1/_7$; 1 ♀ $^{10}/_7$; 1 ♂ $^4/_11$, La Carolina, 9400 f.; 2 ♂♂ $^{10}/_5$, Jaquarcocha, north of Ilana, about 8000 f.

Tigrisoma salmoni SCL. & SALV. — 1 ad. $^{20}/_6$, 1 ♀ $^1/_12$, Gualea, 5000 f.; 1 ad. $^7/_2$, 1 juv. $^{10}/_5$, River Mindo, 5000—5500 f.; 1 ♂ ad. $^{20}/_1$, Rio San Pedro, below Tumbaco, 7500 f.; 1 juv.

$\frac{10}{4}$, Rio Guailabamba, below Zambiza, 7500 f.; 1 ad. $\frac{2}{4}$, Pichincha, 11000 f. (»Caught alive, very tired and unable to fly.» L. S.)

This series representing different stages of development proves, that several characteristics such as the barred tail, the barred axillaries and lower wing coverts, the white notches on the primaries and alula etc. in reality are juvenile features, which are retained in a various degree even in adult birds. As, however, just these same features are said to be characteristic to *T. fasciatum*, the question arises, whether these two really are distinct, or not.

Dendrocycna discolor SCL. & SALV. — 1 ♂, 2 ♀♀ ad. & 1 ♂ juv. from La Carolina, the former shot in Jan. the latter $\frac{20}{6}$. The young bird differs from the adult in having no black on the abdomen, which is greyish with narrow white crossbars.

Dafila spinicauda VIEILL. — 1 ♂ $\frac{8}{3}$, La Carolina; 1 ♂ juv. & 1 ♀ ad. $\frac{22}{9}$, Lake Mica, Antisana 13500 f.; 1 ♂ $\frac{20}{10}$, Pedregal, northern side of Cotopaxi, 11000 f. (plumage worn).

BRABOURNE & CHUBB have not recorded this species further north than South Peru.

Nettion andium SCL. & SALV. — 1 ♀ $\frac{5}{10}$ (unsexed $\frac{6}{11}$) Pedregal, northern side of Cotopaxi 11000 f.; 1 ♂ & 1 ♀ $\frac{10}{6}$, 1 ♀ $\frac{5}{11}$ Lake Mica, Antisana 13500 f.

Querquedula discors LIN. — 3 ad. males in full plumage $\frac{20}{3}$, $\frac{3}{4}$ and $\frac{10}{4}$; 3 males in eclipse plumage $\frac{20}{10}$, $\frac{4}{11}$ and $\frac{10}{2}$ (juv.); 4 ad. females Oct., Jan. and March, one of the last in new plumage the others rather worn. 6 young females Oct., Nov., Febr. and March. All specimens from La Carolina.

Querquedula cyanoptera VIEILL. — 3 males in full plumage (April, May, June) and one female (April) all from La Carolina.

Nyroca nationi SCLATER & SALVIN. — 2 males $\frac{15}{2}$ 1915, La Carolina. This interesting duck appears to be new to the fauna of Ecuador.

Nyroca affinis EYTON. — An immature male from La Carolina, $\frac{12}{5}$.

Erismatura aequatorialis SALVAD. — A female and a young chick, mostly in down, collected $\frac{5}{3}$ 1911 on the northeastern

side of Cotopaxi at an altitude of nearly 14000 feet are referred to this species mostly for geographical reasons, as SALVADORI'S diagnose is very short and unsatisfactory. The length of wing of the adult female is 143 mm.

The chick is greyish brown above, whitish on the throat and the belly, more brownish across the chest. The feathers which have developed on the sides and on the back are rather long, regularly banded with brown and sandy buffish. The longest tail-feathers have the comparatively immense length of 53 mm. thus nearly as long as those of the mother.

Nomonyx dominica LIN. — An adult and a young male shot $10\frac{1}{2}$ in La Carolina.

Merganetta colombiana DES MURS. — 2 males and 2 females from Rio San Pedro near Tumbaco 8000 f., June and July; a young bird partly in down from nearly the same place $23\frac{1}{12}$. A young male from the same river near Cumbaya, 8000 f., $5\frac{1}{2}$, is nearly in full plumage, but has still a couple of downy patches on the sides of the belly. A male from Rio Pita above Chillo 9000 f. $15\frac{1}{7}$ is moulting the tail, but otherwise in adult plumage. A young male from the same locality somewhat higher 9500 f. $20\frac{1}{12}$ has a plumage corresponding to the one described in Cat. Birds B. M. (XXVII p. 463.), but the edges of the feathers of the back are better termed olive grey than »olive-brown», and their colour has no likeness with the same of these parts in the adult bird. A young female from Rio San Pedro near Amaguña 8500 f. $10\frac{1}{3}$ is similar on the back to the young male, but with the edges of the feathers rather light grey. The lower parts are already chiefly fulvous, but there are some few of the barred flank-feathers and several of the white feathers of the lower parts left from the juvenile plumage. It is also moulting and getting new tail-feathers. Finally is to be mentioned an adult female collected at Guailabamba river $20\frac{1}{6}$, at an altitude of only 1000 f.

Consul SÖDERSTRÖM says, that these birds are found in almost all the rapid streams in the interior of Ecuador, but that the females are seldom seen.

The records above prove their distribution from an altitude of 9400 to only 1000 f. The propagation seems to take place towards the end of the year, and the young birds appear

to be similar in the first plumage, to judge from the young moulting female.

Carbo vigua VIEILL. — 1 ♂ $\frac{6}{6}$ Lake Jaguarcocha near Ibane, about 8000 f. Local name »Cuervo».

»Also found sometimes at Rio San Pedro, Chillo, and the rivers near Santo Domingo de los Colorados, but seldom more than one bird at one place.» They are thus only wandering birds.

Plotus anhinga LIN. — A specimen caught alive at La Carolina $\frac{15}{5}$ 1900, the only one ever seen there. 1 ♂ $\frac{20}{11}$ 1919 from Rio Curaray, 2000 f. The Anhingas are common at river Napo and other rivers of the eastern low land.

Vultur gryphus LIN. — 1 ♂ $\frac{13}{3}$ Pichincha, 1000 f.; 1 speimen near Zambiza, 8000 f.

Coragyps atratus foetens WIED. — 1 ♂ $\frac{20}{6}$ near Machangara river 8800 f., 1 ad. $\frac{10}{1}$, outside Quito 9300 f.; 4 pull. in down, Quebrada near Cumbaya 8000 f. collected resp. $\frac{10}{6}$, $\frac{20}{6}$ and $\frac{10}{7}$. Consul SÖDERSTRÖM remarks about this species: »only a few near Quito, rather shy».

Cathartes perniger SHARPE. — 1 specimen from Cumbaya, 8000 f.; collected $\frac{28}{6}$, agrees with SHARPE's description. The general colour is black with a purplish blue gloss. The shafts of the tailfeathers and quills brown above white below, but there is no shade of ashy on the median wing-coverts as in *C. a. falclandicus*. Length of wing 480 mm.

»Found at sandy places near Cumbaya and Tumbaco, feeds on snakes etc., a most graceful flyer, sails along without one flapping of the wings.» (L. S.) This species is not mentioned for Ecuador by BRABOURNE & CHUBB.

Polyborus cheriway JAQUIN. — 1 ♀ $\frac{4}{8}$, Carapungo, north-east of Quito, 8500 f. Local name »Curuquingue».

Ibycter americanus BODD. — 1 sp. $\frac{20}{6}$, near village of Napo; 1 ♀ $\frac{8}{8}$ road to Gualea; 1 sp. $\frac{20}{11}$, Alonguinche south of Mojanda 9000 f. This species thus occurs as well on the eastern as on the western side of the Andes and on the high plateau.

Ibycter carunculatus DES MURS. — 1 ♀ $\frac{3}{6}$, 1 ♂ $\frac{14}{7}$ Chaucpicruz, north of La Carolina, 9600 f.; 1 ♂ $\frac{18}{4}$, western side of Antisana, 11000 f.; 1 ♀ $\frac{12}{5}$ eastern side of Corazon, 11000 f.;

1 ♂ $\frac{25}{4}$, Tablon, road to Papallacta 11500 f. All these are fully adult birds, but in addition to them there is also a very interesting series of young birds in the brownish plumage to be described below. These are from the following localities: 1 juv. $\frac{12}{5}$, eastern side of Corazon; 1 ♀ juv. $\frac{20}{7}$, near Machache 10000 f.; 1 ♂ 1 ♀ juv. $\frac{20}{7}$ near Nono northwestern Pichincha; 1 juv. $\frac{4}{2}$ 1916 Pichincha above Lloa, 11000 f.; 1 ♂ 1 ♀ $\frac{20}{5}$ 1920 near Nono north of Pichincha 1000 f.

On the label of these specimens collected 1916 Consul SÖDERSTRÖM has written: »This species used to be very common on the plains of Machache, wherever there was cattle. Sometimes 40 or 50 would be seen in one field.» On the label of the 2 young specimens collected 1920 he writes further: »This species used to be very common, but of late the Indians seem to kill and eat them, and consequently they are getting very scarce.»

A not yet fledged young bird is on the back rather dark, about »Prouts brown» (RIDGWAY), with narrow black shaft-stripes and somewhat paler tips to the feathers. Head and neck paler, about »sayal-brown». Lower back overlaid with the buffish tips of the feathers, grading into the sandy buffish uper tail-coverts, which are provided with irregular dusky bars and markings. Upper wing-coverts somewhat darker than the back and inclining to »bister». The greater coverts and the scapulars like the quills with buffish white tips. On the primary coverts this light colour is much more extended as well on the outer web as especially on the inner web along the shaft. Primaries black, secondaries more brownish with black shafts. Lower side of primaries with a broad glossy cinnamon band on the inner web along the shaft. Breast »snuff-brown» (RIDGWAY) with black shafts; chest somewhat paler, belly with buffish tips, crissum and lower tail-coverts buffish white. Inner wing-coverts like the breast. Central tail-feathers brown with a buffish white subapical spot, on the others the light markings increase more and more, especially on the inner web; all are tipped with buffish white.

When the young birds get somewhat older, the brown colour of head and neck fades. The light tips of the scapulars, greater coverts and quills become almost white. The lower side is much paler brown, about »sayal-brown», with paler central streaks. Basal half of the primaries buffish white on

both webs, above and below. The secondaries have only a little white basally, chiefly on the inner web. The pale colour of the tail-feathers is less buffish, more dusky or dirty whitish, and occupies on the outer quills the whole, or almost the whole of the inner web, so that the traces of a banded pattern disappears, but on the outer web there is a row of dark more or less confluent dark spots.

The oldest of our young birds has already got a number of black or black-spotted feathers on the upper side among the brown ones. The feathers of the head and the upper neck have now, unlike those of the younger birds, become pointed and lanceolate as in the adult birds. Some of these pointed feathers of the upper neck are black with light centres, but black shafts. The upper tail-coverts are creamy white and, very unlike those of the younger bird, provided with very regular, rather narrow cross-bars measuring on the longest coverts only about a fourth of the white interspaces. The feathers of the lower neck are also pointed as in the old bird. The whole of the lower side is rather pale brown, some feathers with blackish margins, and all with apical and central white spots. The shafts are black, except at the tip. Inner wing-coverts broadly tipped and spotted with buffish white. Lower tail-coverts white with a few dusky bars. Central tail-feathers dark brown with somewhat bronzy gloss. On the outer quills a faint buffy colour appears on the inner and partly on the outer web, but it does not extend to the apical fourth of the feather. All tail-feathers tipped with white, on the outer also a subapical spot and remains of a subapical band may be seen.

A comparison of the pattern of the plumage of the young *Ibycter carunculatus* on one side with the plumage of the adult, and on the other with the respective plumages of other representatives of *Polyborinae* reveals that the plumage of the young *Ibycter carunculatus* exhibits several generalised features, which disappear in the fully adult bird, but which are more or less retained in other members of this subfamily. As such a feature may in the first rank be counted the transversely banded tail, a common pattern among the birds of prey, which no doubt is a primitive character. As has been stated above traces of such a banded pattern are to be seen in the young *I. carunculatus* and can be followed for some time during the

development, but become with increasing age more and more obsolete and cease finally completely for the pattern of the adult. In a similar way the tail-coverts of the young birds have a banded pattern, but those of the adult are pure white.

The general pattern of *Milvago chimango* agrees on the whole with that of the young *I. carunculatus*. On the tail-feathers the banded pattern is retained, although to a certain extent specialised. In a similar way the small upper tail-coverts are transversely banded. It seems probable that *M. chimango* in this respect has retained characters, which, because they appear in the juvenile stages of a species, which in adult plumage is so greatly different as *I. carunculatus*, must have been characteristic to the primitive *Polyborinae*. In the genus *Polyborus* itself the pattern of the plumage has reached rather far in specialisation, but nevertheless the pattern of the tail is still rather primitive. With the exception of the broad black apical band the tail is light with dark cross-bars, as also is the case with the upper tail-coverts of *P. cheriway*. We are inclined to consider that among the *Polyborinae* mentioned *Milvago* is with regard to the pattern of the plumage the most generalised, while *Polyborus* and *Ibycter* represent more advanced stages. Among the latter there are in the pattern of the adult more primitive features retained in *Polyborus* than in *Ibycter*.

SALVADORI & FESTA have (Boll. Mus. Zool., Torino 1900) made some short remarks about the plumage of the young birds of this species, which, however, seemed to deserve to be made more complete by our description above.

Circus cinereus VIEILL. — Adult males: $\frac{12}{6}$, Pichincha above Lloa, 11000 f.; $\frac{12}{5}$ & $\frac{16}{4}$, Mt Corazon, 12000 f.; $\frac{10}{3}$, northern slopes of Iliniza, 10000 f. Adult females: $\frac{6}{10}$ & $\frac{26}{12}$, Pichincha, 11000—11500 f.; $\frac{20}{1}$ & $\frac{30}{6}$, Iliniza 11000 f.; $\frac{10}{4}$, Romerillos E. of Iliniza same altitude; $\frac{7}{4}$ & $\frac{10}{5}$, Corazon, 11000 f.; $\frac{3}{4}$ north of Cotopaxi, 12000 f. A young male in moult to adult plumage, $\frac{15}{12}$, Romerillos. A female in transition-plumage $\frac{10}{4}$, Zambiza, 8000 f.; young males $\frac{23}{2}$ & $\frac{20}{6}$ the same locality 7500—8500 f.; young females $\frac{9}{4}$, east of Iliniza, 11000 f.; $\frac{4}{10}$, Pichincha 12000 f.; $\frac{3}{9}$, Corazon, $\frac{20}{3}$, Mindo, 5000 f. & one $\frac{3}{9}$ no certain locality.

This beautiful series displays in an interesting manner

the different plumages in all ages of this very Hawk-like Harrier. It appears to occur chiefly at rather high altitudes.

Micrastur melanoleucus VIEILL. — A young male from below Gualea, altitude 3000, f., collected $\frac{7}{10}$ 1917 agrees completely with GURNEY's description (The Ibis, 1879, p. 173) of *Micrastur amaurus*, which has been considered to be a melanistic phase of this species.

Another unsexed specimen collected $\frac{6}{12}$ at Nanegal 5000 f. is entirely different. It represents a somewhat older stage than the one described as young in Cat. Birds. It is black above, white beneath. The »tawny rufous» bars of the back and the wing-coverts have disappeared, and the collar is pure white, spotted with blackish. The wings are in moult, the older quills display the crossbars of the juvenile plumage on both webs, but the new quills (secondaries) are black with incomplete white bars on the inner web. The long upper tail-coverts are black with a few white spots and white tip, the shorter ones are unspotted. There is no »rufous wash» on the breast the colour of these parts being pure white with broad black cross-bars and blackish shafts. On the flanks these bars get reduced to longitudinal spots near the shafts. The same is the case with the under tail-coverts. The sides of the face and the upper ear-coverts are white, thinly overlaid with blackish. In other respects this specimen agrees with the young one described in Cat. Birds B. M., which latter no doubt represents the next previous plumage.

We cannot pass further without remarking about the very striking resemblance which this specimen offers with SCLATER's plate of his *Accipiter collaris* (The Ibis, 1860, Pl. 6) with regard to the general colour-pattern, and also the heaviness of the bill. The structure of the tarsi and toes as well as the very long tail (257 mm.) of our specimen etc. prove, however, that it really is a typical *Micrastur*.

Climacocercus guerilla interstes BANGS. — Two males from Gualea, resp. $\frac{5}{1}$ & $\frac{20}{4}$ (alt. 5000 f.) have the dark bars well developed, even on the lower tail-coverts and may for this reason be considered as typical members of this race. A young male is collected near the same place $\frac{16}{12}$, and another in transitory plumage $\frac{4}{1}$, while a third young male is collected at Verdecocha, western side of Pichincha, 10000 f., $\frac{2}{1}$.

It appears most probable that all these belong to the same species as the measurements are nearly alike, viz. 163 & 165 resp. in the old, and 165, 159 and 163 mm. resp. in the young. The youngest one from Verdecocha agrees with regard to colour and pattern most closely with the description of the young bird of the main species, as set forth in Cat. Birds B. M. I, p. 79. The only exception is, that there are some faint transverse bars on the lower tail-coverts. The next one in age is rather similar, but somewhat paler underneath, and with the light bars of the upper side still more obsolete. The oldest of the young birds ($\frac{4}{1}$) does not show any bars at all on the back, which, however, still is brownish black (not slate). The lower side is very little buffish almost creamy white with only few dark and incomplete cross-bars to the feathers of the breast, flanks and belly, while the thighs and crissum including the lower tail-coverts are unspotted. But some new feathers appearing on the breast show the heavily barred pattern of the adult. The same is also the case with a few feathers on the outer side of the thigh.

Parabuteo unicinctus unicinctus TEM. — 1 ♂ ad. $\frac{19}{10}$, Caraburo, front of Zambiza, 7500 f.; 1 ♀ $\frac{2}{3}$, above Tumbaco, 10000 f. 1 ♂ ad. $\frac{10}{5}$, near Zambiza 8500 f.; 1 ♂ juv. $\frac{27}{1}$, Cum-baya, 6 miles east of Quito, same altitude; 1 ♂ juv. $\frac{10}{4}$, Pichincha, 11000 f.

Accipiter ventralis ventralis SCLATER. — 1 »♂«, $\frac{24}{3}$, 1 unsexed, $\frac{7}{1}$, 1 ♀ $\frac{20}{11}$, 1 juv. $\frac{3}{6}$, Piganta, near Mojanda, 8500 f.; 1 ♀ juv., $\frac{20}{7}$, near Carapungo, 8500 f. The young birds of this series show very plainly the gradual development of the pattern, which consists therein, that the from the beginning very pronounced brown barring of the lower side gradually becomes more and more obsolete at the same time as the rufous shade spreads and increases in intensity. At the same time as the from the beginning few and obsolete dusky spots on the white lower tail-coverts develop into regular bars of a mixed rufous and dusky.

The size of all these five specimens is remarkably alike, as the length of wing of four of them only varies between 197 and 200 mm., and that of the fifth (the one from Carapungo) is 191 mm.

Accipiter ventralis »nigroplumbeus» LAWR. — 1 ♂ ad. $\frac{1}{9}$,

1 ♂ $\frac{7}{12}$, 1 »♀» $\frac{13}{4}$, Pichincha, 10000—11500 f.; 1 unsexed $\frac{6}{10}$, western side of Mojanda, 9000 f.; 1 ♂ rather young, near Gualea, 5000 f.; 1 ♂ juv. $\frac{20}{2}$, Carapungo north-northeast of Quito, 8500 f.

The first mentioned of this very instructive series is considerably darker on the lower side than the type as described by LAWRENCE, because it is entirely dark plumbeous all over even on the belly, with the exception of some few obscurely rufous, scattered feathers and some others tipped with a similar shade. The following four agree with the original description, although the shade of rufous or cinnamon of the belly is more or less saturated.

The young bird is very similar to the young *A. v. ventralis* as well with regard to pattern as colour, and indeed we are thoroughly convinced that this series only represents dark males of the same. The length of wing of the youngest specimen above is 165 mm., the same measurement of four of the others is from 170 to 175 mm., but in the last it amounts to as much as 189 mm. With the exception of the last one this dimension thus agrees with the corresponding one recorded for *A. v. ventralis*. Considering the amount of variation in size often found among Sparrowhawks we do not think that the somewhat greater size of one of the specimens prohibits our identification. It may also be observed that in all cases in which the sex is known, with one exception in either series, possibly due to some mistake, all specimens of the former series have been stated to be females, and in the latter to be males. As may be seen from the localities recorded both the larger and the smaller specimens have been collected in exactly or nearly the same places, and it is hardly possible to believe in the occurrence of two different, but at the same time so similar »races» in the same district.

Accipiter erythrocnemis GRAY. — 1 ♀ $\frac{15}{9}$, Pomasqui 12 miles north of Quito, 8500 f.; 1: ♂, $\frac{14}{10}$, above Nono 11000 f.; 1 ♂ $\frac{10}{5}$, western side of Mojanda, 10000 f.; 1 juv. unsexed $\frac{10}{5}$, Niebli, west of San Antonio.

These specimens, young as well as adult, agree completely with the descriptions in the literature, and there can be no mistake whatever as to the identity. The length of the wing is 173 mm. in the male, and 190 mm. in the female. These

dimensions are very similar to the corresponding ones for *A. ventralis*.

There is also no doubt, that these two races really are nearly related. *A. erythrocnemis* is recorded from Brazil and Bolivia, but it is uncertain, whether it is an eastern race or not. Its occurrence in Ecuador in practically the same district as *A. ventralis* is of interest and arouses easily the suspicion that it perhaps only is a light phase of this species just as »*nigroplumbeus*» represents a dark phase of the males of the same. For such a supposition speaks the fact that both have about the same dimensions, rufous thighs (except in the darkest specimens of »*nigroplumbeus*») etc.

Accipiter bicolor schistochlamys HELLMAYR. — 1 ♂ $\frac{8}{10}$, Alonguinche south of Mojanda, 9000 f.; 1: ♂ $\frac{4}{11}$, near Gualea, 5000 f. The latter has a very interesting transitory plumage with partly dark brown rufous-tipped, partly slate-coloured feathers.

Accipiter pileatus TEMM. — 1 ♂ juv. $\frac{18}{7}$, road to Gualea, 6000 f.

It is with a certain hesitation that we have named this bird as above, but in accordance with the literature, there is no other possibility as the under side of the specimen is buffy white, not »rich fawn colour».

Geranoaetus melanoleucus VIEILL. — 1 ♂ $\frac{20}{8}$, 1 ♀ $\frac{3}{6}$, La Carolina; 1 ♂ juv. & 1 ♀ juv. $\frac{20}{6}$, 1 ♀ $\frac{4}{11}$, 1 ♂ ad. $\frac{17}{3}$, Pichincha 11000—12000 f.; 2 ♀♀ juv. $\frac{4}{11}$, Tucubamba, 6 miles south of Quito, 9500 f.; 1 ♂ juv. $\frac{13}{11}$, Chaupieruz, 9400 f.; 1 ♂ ad. $\frac{16}{3}$, M:t Corazon, 11000 f.; 1 juv. $\frac{4}{7}$, San Bartolo, 3 miles south of Quito, 9400 f.; 1 sp. unsexed $\frac{10}{5}$ above Cotocallo, 10000 f.

Consul SÖDERSTRÖM has written on the label of a specimen collected 1909, that this species formerly was very common around Quito, but that it already then had become rare.

Buteo erythronotus peruviensis SWANN. — 1 ♂ $\frac{27}{3}$, 1 ♀ $\frac{25}{10}$, 1 semiad. $\frac{18}{11}$, Pichincha, 11—12000 f.; 1 (♂) ♀ semiad. $\frac{6}{5}$, M:t Atacazo, south of Quito, 11000 f.; 1 ♂? juv. $\frac{5}{11}$ above Pomasqui 9000 f.; 1 young bird with the wings not yet fully developed $\frac{4}{11}$, Western Mojanda, 9000 f.

The length of wing of the fullgrown birds in same order as they are recorded above: 357, 369, 378, 402 mm.

This species is thus smaller than *B. hyospodius* (cf. below), and it is of great interest to note the occurrence in the same country of at least three different Buzzards forming an almost continuous series in size from *B. poecilochrous* to *B. erythronotus* and at the same time with a certain resemblance in colour as well.

When compared with typical specimens of *B. erythronotus* from Argentina the adult males of this race in the present collection certainly prove to be much darker and may be termed blackish slate.

The first plumage of the not fully fledged young bird is dark brown above, streaked with rufous on the sides of the head; somewhat margined and notched with rufous buff on the upper back; scapulars tipped and on the concealed parts of the inner web barred with rufous buff; upper wing-coverts more barred, tipped and notched with the same colour. Primaries blackish with more or less buff on the inner web, the inner ones also slightly tipped with buffish. Secondaries partly grey on the inner web and barred with dark brown. Upper as well as lower tail-coverts buffish white, unspotted, but a few have a quite narrow and short black shaft-streak. Tail-feathers rather broadly tipped with buffish white, otherwise uniformly black above, greyish with numerous dark cross-bars below. Lower side buff with broad black stripes, proximally beginning with a narrow black shaftstreak. Thighs pale buffish with dark rufous brown cross-bars. This first plumage thus differs from the description of a young bird of this species in Cat. Birds Brit. Mus. I.

Buteo hyospodius GURNEY. — To this species belongs a beautiful and quite typical male in full plumage, collected $14\frac{1}{2}$ 1916, Pichincha above Lloa, 11500 f.: Length of wing 421 mm. First, second, third and fourth primaries rather deeply notched; third, fourth and fifth primaries of equal length. General colour (bluish) slate, just as SWANN states in his last edition of »A Synopsis of the Accipitres».

To the same species we also count three younger birds, which are similar with regard to the subequal length¹ of third, fourth and fifth primaries (the fourth being only slightly

¹ GURNEY does not mention anything about the length of the fifth primary in the description of this species, he only says that the third and fourth are subequal.

longer than those on either side), but the fourth is only somewhat sinuate on the inner, not really notched. These are labeled as follows: 1 ♀ $\frac{20}{6}$ 1918, Pichincha 12000 f.; 1. sp. unsexed, $\frac{20}{3}$ 1907, 1 ♂ $\frac{16}{10}$ 1908, Antisana 11500 f.

With regard to the colour of the plumage these are rather similar inter se, dark brown with rufous or buff margins to the feathers of the upper side. The wing-quills are more or less grey, partly white on the inner web, with black bars, and with the tips of the outer primaries black. The tail-feathers are grey, partly white on the inner web, with 15 to 20 dark bars, the subapical of which is somewhat broader than the others, but not more than 1 cm. and usually less, thus very different from the very broad black subapical band of the adult. The lower side is dark brown, a very dark shade of »warm sepia», with light markings. In the female from Pichincha the latter are constituted by broad rufous margins to the feathers of the breast, by buffish margins and bars on the feathers of the abdomen and the lower tail-coverts. The two other specimens have very little rufous markings on the breast, and the feathers of the abdomen are only slightly tipped with buffish and provided with some light spots, chiefly on the concealed parts, but the tail-coverts are barred as in the female. On the whole they are, however, much darker below than the latter. The length of the wing is in the unsexed specimen 442, in the others about 425 mm.

Strange to say there are still two specimens of *Buteo*, which bear a certain resemblance to those just described, but which cannot without very much hesitation be identified with *B. hypospodius* for several reasons. Firstly they are considerably smaller and, secondly the order of size of the primaries is different. The third and fourth primaries are subequal in length, but the fifth is not less than 18 to 25 mm. shorter than the two next outer ones. The value of such a characteristic is difficult to dispute. The equal size of third, fourth and fifth primaries is, as we have seen, characteristic for *Buteo hypospodius*, while *B. erythronotus* has the fifth decidedly shorter than the two next outer ones, just as is the case with these specimens. With regard to the length of the wing these specimens fall within the limits of variation for *B. erythronotus* as well. The colour-pattern is, however, entirely and strikingly different, because there is not the slightest trace of rufous

or even buff, nor of any slate. Although there is a certain resemblance between these two specimens on one side and with as well *B. erythronotus* as *B. hypospodius* on the other, it is very difficult to consider them as being (melanistic) varieties of either.

One of them is a male collected ²³/₉, 1916 on the southern side of Pichincha at an altitude of 11000 f., the other is unsexed, but presumably a female from Mojanda collected ¹⁹/₁₁, 1907 at an altitude of 10000 f.

Both are extremely dark and they do not appear to agree with the description of any known form. The first specimen viz. the male is uniformly warm sepia above, still darker below almost black. Concealed bases of the feathers of the neck white. Primaries black, the inner web with pale cross-bars, which distally are obsolete but proximally become more pronounced and white, mottled with brown. On the inner primaries the pale bars are to be seen on the outer web as well, but only faintly. The pattern of the secondaries is similar to that of the inner primaries. Lower side of wing greyish white; the inner web of the outer primaries somewhat mottled with darker; the inner primaries and the secondaries more regularly barred; the tips of the outer primaries blackish with pale spots or bars on the inner web. The upper tail-coverts with concealed longitudinally oval, buffy white spots arranged in pairs on the middle ones, tending to form cross-bars on the outer ones. Tail-feathers brownish grey with 12 to 14 blackish cross-bars and an obsolete subterminal broader spot or bar. On the inner web of the outer tail-feathers the pale interspaces are more or less mottled with white.

The under wing-coverts chiefly black, but the longer ones with oval white spots in pairs, or cross-bands. On some few of the axillaries as well these oval white spots are to be seen.

The other specimen (presumably younger) is similar in its general aspect, but the white of the neck is more visible. Middle upper wing-coverts with oval greyish white spots. Upper scapulars with similar oval spots, the longer ones with whitish cross-bars. Upper tail-coverts similar to those of the former specimen, but the creamy oval spots, resp. the white bars more developed. Throat, fore-neck and chest uniformly dark sepia, almost black, breast and belly including lower

tail-coverts similar with regard to the ground colour, but showing in a striking manner the characteristic pattern with the white oval spots arranged in pairs. Axillaries and under wing-coverts have the same pattern as well.

The three outer primaries are notched on the inner web, and in the more spotted of the two specimens the same may be said about the fourth as well, but in the darker specimen the fourth is only sinuate.

Length of wing in the male 373 mm. in the unsexed specimen 397 mm. (when adpressed). Culmen from cere 21,5 and 24 mm. resp.

Buteo poecilochrous GURNEY. — 1 »♂» $^{25}/_{11}$ & 1 ♀ $^{14}/_5$, both adult and collected on Pichincha at an altitude of 12 and 14 thousand feet agree completely with GURNEY'S description although the former is a little less barred.

1 ♂ from nearly the same locality, collected $^{30}/_1$ is similar to the former on the upper side but pure white below, only with some faint traces of dusky undulations, which hardly are discernible even at a short distance. We think it worth mentioning that the red of the interscapular region is just as well developed in this male as in the female, because this does not appear to be known, and this species differs by this from *B. erythronotus* which it otherwise resembles in pattern. In addition to these old birds there is a number of young birds which we refer to this species viz.: 1 ♂ juv. $^{12}/_4$, Pichincha 12000 f.; 1 ♀ juv. $^{15}/_2$, 1 ♂ juv. $^{13}/_{11}$, Chaupicruz, 9400 f.; 1 ♂ juv. $^{1}/_{10}$, Chilogallo, 9800 f.; 1 ♂ juv. $^{28}/_9$ near Cotocallo, 9400 f.; 1 ♂ juv. Tumbaco, 8000 f.

The length of the wing of these specimens is resp. in the same order as quoted above: the old birds: 455, 455, 465; the young birds: 450, 480, 462, 495, 485, 470 mm.

Buteo swainsoni BP. — 1 ♀ $^{15}/_1$ 1916, Zambiza, 6 miles north of Quito, 7500 f. altitude.

Buteo platypterus VIEILL. — 1 ♂ ad. $^{22}/_{12}$, Pichincha 12—13000 f.; 1 ♂ $^{1}/_2$, 1 ♂ $^{20}/_{12}$, Quito 9600 f.; 1 ♂ ad. $^{1}/_3$ road to Mindo, 9000 f.; 2 ♂ juv. $^{2}/_3$ below Mindo 5000 f.; 1 ♂ juv. $^{20}/_{12}$, 1 ♀ ad. $^{10}/_2$, 1 ♀ ad. 1 ♂ juv., 1 ♀ juv. $^{12}/_2$, 1 ♀ ad. $^{10}/_7$ at Gualea 5—6000 f.; 1 unsexed $^{25}/_4$, 1 ♂ juv. $^{10}/_{11}$, Zambiza, 7 miles north-east of Quito 7500—8500 f.; 1 ♀ juv. $^{2}/_3$, Alonquinche south-east of Mojanda 9000 f.; 1 ♀ juv. $^{16}/_6$, northern

slopes of Sincholagua 13500 f.; 1 ♂ juv. $\frac{1}{8}$, Pomasqui, 12 miles north of Quito, 8500 f.; 1 ♂ juv. $\frac{17}{12}$, near Rio Guallabamba, 7000 f.

Consul SÖDERSTRÖM remarks, that this Buzzard generally is found in the woods on the western side at Mindo, Nanegal, Gualea, etc. but sometimes also near Quito.

It is rather interesting to find, that some of these Buzzards remain in Ecuador even during the northern summer, which is proved by the presence of a young female the 16th of June, and still more remarkable, by an old female collected the 10th of July.

Rupornis leucorrhoa QUOY & GAIMARD. — 1 ♂ $\frac{1}{7}$, 1 unsexed $\frac{24}{9}$, 1 ♀ $\frac{13}{2}$, 1 ♀ $\frac{9}{3}$, 1 ♀ $\frac{12}{6}$, Alonguinche, southern side of Mojanda, 7—9000 f.; 1 ♂ $\frac{20}{3}$, Maspa, below Papallacta, 6—7000 f.; 1 ♂ $\frac{6}{5}$, Piganta, western side of Mojanda, 8600 f. A semiadult female collected $\frac{26}{7}$ on the southern slopes of Mojanda at an altitude of 9000 f. is already black above only with some narrow tips of dull rufous to the feathers, but the nape and hind-neck are somewhat streaked with buffish, and the concealed parts of the feathers of this region are largely buffish or white. The long upper tail-coverts creamy white, partly with concealed blackish central streaks. The lower side buff with broad blackish central streaks, which are dominating on the lower breast. Under tail-coverts creamy white. Tail black with two ashy brown bars above, the proximal of which is partly white on the inner web of the lateral tail-feathers. On the lower side of the quills these bars appear white, and in addition to them there are two more whitish bars, more or less pronounced and formed by white spots and mottlings on the inner webs of the tail-feathers except the middle ones. Thighs mottled with rufous, buffish and dusky producing an irregularly barred appearance. Wings similar to those of the adult. This plumage thus represents an interesting intermediate stage.

R. leucorrhoa does not appear to have been recorded from Ecuador before.

Leucopternis princeps SCLATER. — 1 ♂ $\frac{4}{10}$, 1 ♀ $\frac{3}{10}$, near Gualea, 5000 f.

Length of wing in male 341, in female 351 mm.; length of

culmen from cere resp. 30 and 30,5 mm., the same from the feathers resp. 39,3 and 41,5 mm.

Spizaetus ornatus DAUDIN. — 1 ♂ juv. $\frac{1}{8}$, near Gualea, 5000 f.

Elanoides forficatus LIN. — 1 ♂ $\frac{4}{10}$, 1 ♂ $\frac{30}{9}$, near Gualea, 3—4000 f.; 1 unsexed $\frac{20}{11}$, S:to Domingo de los Colorados, 3000 f. Concerning this species and its habits Consul SÖDERSTRÖM has made the following communications: »It arrives generally at the end of Sept. or beginning of Oct., very common in the woods along the rivers in Nov.-March. It is difficult to shoot, because it flies very high. It feeds on lizards and insects which it catches from the branches of the trees when in full flight.»

Chondrohierax (= *Regerhinus*) *uncinatus* TEMM. — 1 ♂ $\frac{24}{10}$, 1 ♀ $\frac{30}{7}$, near Gualea, 5—6000 f.

Ictinia plumbea GMEL. — 1 ♂ $\frac{20}{6}$, near Mindo, 5000 f.

Harpagus bidentatus LATH. — 1. juv. $\frac{11}{3}$, near Niebli, northwestern side of Pichincha, 7500 f.; 1 ♂ ad. $\frac{12}{7}$, 1 ♂ ad. $\frac{6}{8}$, road to Gualea, 6000 f.; 1 ♂ $\frac{4}{8}$, 1 ♀ $\frac{20}{3}$, near Gualea, 5000 f.

The adult specimens represent all stages from the one with the lower parts chestnut to such with hardly any rufous tint below.

Falco peregrinus anatum BP. — 1 ♂ & 1 ♀ $\frac{4}{10}$, 1 ♀ juv. $\frac{6}{10}$, Pichincha, 10—12000 f.; 1 ♂ juv. $\frac{20}{6}$, 1 ♂ juv. $\frac{20}{9}$, Pomasqui 12 miles north of Quito, 8500—9000 f.; 1 ♂ juv. $\frac{8}{5}$, Chaupicruz, 9400 f. From the above is apparent, that at least young birds of this species sometimes remain in Ecuador as late as in May and June.

Falco rufigularis DAUDIN. — 1 ♂ $\frac{15}{7}$, 1 unsexed $\frac{7}{4}$, Mindo.

Falco fusco-caerulescens VIEILL. — 1 ♂ $\frac{10}{3}$, 1 ♂ $\frac{25}{2}$, 1 ♂ $\frac{15}{4}$, 1 ♂ $\frac{10}{7}$, 1 ♀ $\frac{6}{2}$, 1 ♀ $\frac{19}{10}$, Carapungo, 8500 f.; 2 ♂♂ $\frac{4}{7}$, 1 ♂ $\frac{1}{11}$, Chaupicruz, 9500 f.; 1 ♀ $\frac{20}{5}$, 1 ♂ $\frac{20}{7}$, Zambiza, 7500—8000 f.

Falco columbarius LIN. — 1 ♂ $\frac{7}{10}$, 2 ♀♀ $\frac{18}{10}$, Carapungo; 1 ♂ $\frac{1}{4}$, 1 ♂ $\frac{10}{8}$, 1 ♀ $\frac{10}{11}$, Chaupicruz; 1 ♂ $\frac{28}{1}$, 1 ♂ $\frac{20}{3}$, 1 ♂ $\frac{10}{5}$, Zambiza; 1 ♀ $\frac{4}{1}$, 1 ♂ $\frac{11}{2}$, 1 ♂ $\frac{20}{9}$, Pomasqui, 8500 f.; 1 ♂ $\frac{6}{11}$ Quito.

It is of interest to state the presence of this species in

Ecuador at such times of the year as the 10th of May and the 10th of August.

Cerchneis cinnamomina equatorialis MEARNS. — Adult males: 1 sp. $^{19}/_2$, Pichincha, 10500 f.; 1 sp. $^{20}/_7$, La Carolina; 1 sp. $^1/_5$, 1 sp. $^8/_11$, Cumbaya, 6 miles east of Quito, 8000 f.; 1 sp. $^3/_8$, Tumbaco, 9 miles east of Quito, 7500 f.; 1 sp. $^{24}/_3$, 1 sp. $^{10}/_7$, Pomasqui; 1 sp. $^7/_3$, Chaupicruz; 1 sp. $^{24}/_3$, Guapulo, 8900 f. Females: 1 sp. $^{11}/_3$, 1 sp. $^1/_7$, outside Quito, 9400 f.; 1 sp. $^{25}/_9$, above Quito, 10000 f. Immature males: 1 sp. $^{20}/_6$, Cumbaya; 1 sp. $^{28}/_7$, Pomasqui. Local name: »Quilico» or »Guilico».

Consul SÖDERSTRÖM writes, that this Kestrel is mostly found in the Agave-hedges from Quito and downwards to an altitude of 6000 feet. Around Quito it is found in most places. It feeds on lizards and sometimes on small birds, and it is able to devouring its prey while balancing itself in the air. It is very easily tamed. The length of wing of the males is from 185 to 193 mm. As these specimens are all of them nearly from the same locality, it is not probable that there is any racial difference expressed by this variation in size, in fact small and large specimens are partly from exactly the same place. The larger ones have, however, as a rule fewer spots and may be more mature birds. The red colour of the back varies somewhat in intensity, but the cinnamon-rufous of the lower side still more. This is at least partly independent of age as one of the lightest is at the same time one of the least spotted. Only one of these specimens shows two rufous feathers on the hinder part of the crown, in the immature males there are more rufous feathers and one of them has a real patch of this colour. Old females are also without rufous on these parts, but in the younger ones some feathers are streaked with rufous.

Bubo nigrescens BERL. — 1 ♂ $^{20}/_{10}$, 1 ♀ $^{20}/_9$, Cumbaya, 6 miles east of Quito, 8000 f.; 1 ♂ $^{20}/_3$, 1 ♂ $^{13}/_{12}$, Quebrada, Tumbaco, 7500 f. All these specimens are more or less spotted on top of the head.

Asio stygius WAGLER. — 1 ♂ $^{15}/_6$ above Cotocallo, north-eastern side of Pichincha 10000 f.; 1 ♂ $^{20}/_6$, Atahualpa, western side of Mojanda, 8500 f.; 1 ♂ $^{17}/_{11}$, western side of Mojanda, 9000 f.

Asio flammeus PONTOP. — 1 ♂ $^{20}/_6$, Piganta, western side of Mojanda, 8400 f.; 1 ♂ & 1 ♀ juv. $^{25}/_{11}$, Atacatzo, south-west of Quito, 12000 f.; 1 ♂ $^{24}/_{11}$, above Cotocallo, north-eastern Pichincha, 10500 f.; 1 ♀ $^4/_6$, ♂ & ♀ $^{30}/_6$, southern slope of Corazon, 11000 f.; 1 ♂ $^{23}/_1$, Corazon, 11500 f.

Concerning the habits of this owl Consul SÖDERSTRÖM has written: »When it is cloudy and misty in the afternoon, this bird flies low over the Paramo. It feeds on 'partridges', small rabbits etc., but it never leaves its resting place, when the weather is fine, except at nigh-time.»

The fact that several of these specimens have been collected in the month of June proves that they really are residents in this region, not migrants, and this is still further confirmed by the interesting find of the young bird at Atacatzo. This specimen is fledged, but still to some extent covered with down so that there is not the slightest doubt about its having been hatched there.

Otus ustus SCLATER. — 1 ♂ $^5/_{12}$, near Rio Curaray, about 1000 f.

This specimen agrees entirely with SCLATER's plate (Trans. Zool. Soc. London IV 1862, Pl. LXI). BERLEPSCH has identified this species with »*Ephialtes watsonii*» CASSIN, but as the description of this latter suits less well to our specimen, and the exact type locality of the same is not known, we have preferred to write the name as above.

Ciccaba albogularis CASSIN. — 1 ♂, 1 ♀ $^6/_5$, 1 ♀ $^9/_9$, 1 ♂ $^9/_{11}$ Alonguinche, southern side of Mojanda 8800 f.; 1 ♂, 1 ♀ $^{21}/_{11}$, 1 ♀ & 1 pull. $^3/_3$, 1 ♀ $^{19}/_6$, 1 ♂ $^{16}/_{11}$, Piganta, western side of Mojanda, 8500 f.; 1 ♀ $^{31}/_7$, 1 ♂ $^{22}/_{11}$, southern side of Mojanda, 8600—9000 f.; 1 ♂ $^{10}/_5$, 1 ♂, 1 ♀ $^{18}/_7$, below Verdecocha, road to Mindo, 60000—9500 f.

General colour of upper parts dark brown, sometimes almost black, minutely sprinkled with buff. On the hind neck and upper back an individually much varying number of small roundish, or somewhat irregular white spots, which on the concealed parts of the feathers may take more or less the shape of bars; in some specimens these white spots also extend to the scapular region. On the longer scapulars of some individuals the buff mottling broadens to transverse spots and bars especially on the outer web, most of this is,

however, concealed. (It is especially noteworthy that there are no mesial dark spots or streaks to be seen on the back.) Top of head like the back, in some specimens with scattered small white spots. Lesser and middle wing-coverts dark brown like the back in some specimens only slightly ticked and spotted with buff, in others more extensively mottled with the same. Primary coverts as a rule uniformly dark brown sometimes feebly dotted with buffish brown. Greater coverts more mottled with greyish buff and in some specimens also irregularly spotted with buffish white or pale buff. Margin of wing at base of alula buffish white. Primaries dark brown, outer web with squarish spots or mottlings of buffish, and some transverse spots of buffish white on the basal parts of the inner web. Secondaries similar, but the transverse pale markings of the outer web are less solid and consist chiefly of mottlings; the inner web has more or less confluent indentations or bars of buffish white, in some specimens only on the basal parts in others over the greater part of the same. Upper tail-coverts similar to back. Tail-feathers dark brown mottled with greyish buff, more finely towards the edges of both webs, but with a tendency to form spots or bars on either side of the shaft, sometimes alternating sometimes in pairs. These central markings are almost absent on the proximal portion of the central tail-feathers. Bristly tips to feathers of face very strongly developed and black. Face blackish more or less barred with whitish. Feathers of superciliary region basally white, distally black more or less barred with white. Auricular region black, narrowly transversely banded with white. Feathers constituting the lower part of the facial ruff extensively white with black tips, thus a white semicollar bordered with black is formed. The white appears to be broader in some males. Chest and upper breast sooty brown with buffish mottlings and white spots on both webs. The size and number of these spots is variable in different specimens. The ground-colour of the lower breast and abdomen is buff, somewhat varying in intensity. — Thus the general colour of the anterior and posterior portions of the under parts is decidedly different. — The feathers of the lower breast and abdomen are provided with dark brown shaft stripes of varying breadth. On the posterior part of the abdomen and crissum these stripes become less distinct and partly disappear. In

addition to this there are also, especially on the lower breast, some transverse dark bars chiefly in the distal portion of the feathers. On the abdomen these bars become more or less faint or completely reduced. The whole pattern is rather irregular and never has the »herring-bone» appearance characteristic for *choliba* and some others. The under tail-coverts are provided with more or less pronounced mesial streaks but no bars. Toes and lower portion of tarsus to a varying extent entirely naked.

Length of wing in 7 ♂♂: 194, 194, 198, 200, 200, 201, 201 mm.

Length of wing in 8 ♀♀: 197, 199, 200, 201, 203, 204, 205, 207 mm.

These measurements refer to the straightened wing, adpressed to the table.

Ciccaba virgata virgata CASSIN. — 1 ♂ $^{11}/_6$, 1 ♂ $^{16}/_9$, 1 ♀ $^{1}/_{11}$, Gualea 4000—5000 f.; 1 ♂ $^{17}/_{11}$, road to Gualea 6000 f.; 1 ♂ $^{27}/_6$, near Rio Blanco, 4000 f. All these specimens are comparatively dark with the upper back nearly black and in three of the specimens only slightly mottled.

Syrnium albitarse SCL. — 1 ♂ $^{20}/_3$, 1 ♂ $^6/_{10}$, 1 ♂ $^4/_{11}$, 1 ♀ $^3/_{11}$, Alonguinche, south side of Mojanda, 8500—9000 f. These specimens agree on the whole quite well with SCLATER's description. The head is less uniform and shows subapical rufous bars on almost all feathers. The amount of white above the orbit is different in different specimens and as a rule more or less spotted with darker. The feathers on the tarsi are partly white partly rufous in a various degree in the different specimens. The length of the wing is from 249 to 256 mm. in the males, and 262 mm. in the female. It is possible that these smaller measurements and the differences in colour mentioned indicate a separate race, but considering the variability often exhibited by owls we have not regarded it desirable to give any new name.

Gisella harrisi CASS. — 1 ♂ $^7/_{10}$, near Zambiza, about 8500 f. Consul SÖDERSTRÖM remarks that this Owl is »very rare». The length of wing is 142 mm. It is not recorded by BRABOURNE and CHUBB for Ecuador.

Speotyto cunicularia MOLINA. — 3 ♂♂, 1 ♀ March, 1 ♂

$16/4$, 1 ♂ $24/6$, 1 ♀ $3/7$, 1 ♂ $29/7$, San Antonio, 15 miles north of Quito, 8400 f.; 1 ♂ $10/3$, 1 ♂ $10/7$, 1 ♂, 1 ♀ $25/12$, Inga road to Zambiza, 9000 f.; 1 ♀ $9/2$, 1 ♀ $11/5$, Chapicruz, 9400 f. In all these specimens the white spots or bars on the tail-feathers are narrower than the brown except sometimes basally on the inner web of the outermost pair. W. STONE has pointed out that the southern specimens have the white of the outer tail-feathers surpassing the brown and means that this is a characteristic of the true *cunicularia*. We have also stated the same as well on specimens from Chile as on such from Buenos Aires, although it is not entirely without exception, as some Chilean specimens prove. Considering the great variation in this respect we are, however, inclined to regard these specimens as representing *cunicularia*. The wing-measurements of the present specimens vary from 173 to 185 mm. They are thus decidedly smaller than *S. c. juninensis* BERL. & STOLZM., but on the other hand just as much larger than *S. c. tolimae* STONE.

»This owl makes nests in holes in the edge of the small 'quebradas', where the male sits in the opening sunning himself during the breeding-season. The males soar upwards like larks uttering a harsh cry.» (L. S.)

Glaucidium jardinii BP. — 1 ♂ & ♀ $7/2$, 1 ♂ $10/4$, 1 ♂ $24/6$, 1 ♂ $10/10$, 1 ♀ $7/11$, 1 ♂ $20/11$, 1 ♂ $4/12$, 1 ♂ $14/12$, 1 ♂ $24/12$, Pichincha 8000—13000 f.; 1 ♂ $20/2$, 1 ♀ $20/3$, 1 ♀ $3/4$, 1 ♂ $14/6$, 1 ♀ $3/7$, 1 ♀ $10/7$, 1 ♂ $24/8$, Nono, 8000—10000 f.; 1 ♂ $6/5$, 1 ♂ $6/10$, Piganta western and southwestern slopes of Mojana, 8500 f.; 1 ♂ $20/6$, 1 ♂ $12/7$, Verdecocha, western side of Pichincha, 10000 f.; 1 ♂ $10/7$, above Chillo, 10000 f.; 1 ♀ $15/5$, Alonguinche, 8000 f.; 1 ♂ $2/7$, near Baeza, 6800 f. This very interesting series proves in an admirable way the variation of this little owl as there are representatives as well of the grey as the rufous phase and at the same time also intermediate stages. The degree of spottedness proves also variable.

Glaucidium pumilum griseiceps SHARPE. — 1 ♂ $4/1$, road to Gualea, 5000 f.; 1 ♂ $16/6$, the same road, 6000 f.; 1 ♀ $30/6$, 1 ♀ $28/10$, the same road, 8000 f. The first of these specimens represents the grey phase and is quite typical, the others belong to the rufous phase and are somewhat different also inter se. The third in order from the beginning is normal as far as it

has the back unspotted and uniform, although rufous. The tail is rufous, dark along the centre of the quills and with obsolete dark bars. The second and fourth specimens have concealed light spots on the back, but the pattern of the tail is normal. It cannot be denied, that the rufous phase of this owl as represented in this collection very much resembles the corresponding phase of *G. jardinii*, but in *G. p. griseiceps* the white spots on the pileum are larger and more pronounced, bordered with black behind also in the rufous phase. It is thus no difficulty to pick out the *griseiceps* from a series of both forms, but we are inclined to think, that they substitute each other in different localities. This Central American form does not appear to have been recorded from Ecuador before.

Tyto perlata »contempta» HART. — 1 ♀ $17/5$, 1 ♀ $24/8$, 1 ♂ pull. $23/5$, 1 pull. (no date), Quito, in church-towers; 1 ♂ $10/6$, Santa Clara de San Millan, outside Quito; 1 ♂ $6/6$, 1 ♂ $14/6$, Chaupicruz, 4 miles north of Quito, 9400 f.; 1 ♂ & 1 ♀ $11/8$, Zambiza, 15 miles northeast of Quito, 7500 f.; 1 ♂ $8/1$, 1 ♂ pull. $3/9$, Pichincha above Quito, 10500 f.; 1 ♂ $10/4$, Sangolqui, Chillo Valley, 8600 f.

HARTERT's name *contempta* is used above, because these specimens evidently are from almost the same locality, from which the author quoted received his type-specimens, on which he based this name. The majority of our adult specimens differ, however, considerably in colour from HARTERT's description. They are namely quite white on the lower side, only with some faint buffish tint on some feathers and with a varying, but usually small number of small dark spots. Some specimens are, however, darker, chiefly the young ones, with the lower surface some shade of buff and at the same time with a greater number of dark spots. White-bellied specimens have the tarsal plumage white, and the buff-coloured ones have in a corresponding manner buff tarsi. The former have the orbital ruff white, the latter have it more or less deeply tinged with tawny. In the former the upper side is lighter, mottled grey much mixed with buff especially on the upper back and the scapular region, whereas the latter have the back much darker, rather fuscous grey and with less buff. In a corresponding manner the wings are resp. lighter and darker. From this may be concluded that the Barn-Owl of Quito cannot be termed a dark race, but rather the oppo-

site. It appears probable that the specimens with increasing age become more and more white. It is thus at least questionable, whether »*contempta*» can be maintained as a separate race. The length of the wing of these specimens is resp. 295 (287), 311 (306), 312,5 (304), 316 (311), 317 (311), 321,5 (315) mm. The first figures represent the dimension of the wing when pressed to the table, those in brackets the natural length.

Ara ararauna LIN. — 1 ♂, $^{15}/_3$, below Archidona, Napo 3000 f.

Ara militaris LIN. — 2 ♀♀, $^6/_10$, along river Napo, 1000 f.

Conurus rubrolarvatus MASS. & SOUANC. — 1 ♂, 1 ♀ $^{17}/_1$ from Guayaquil, 100 f.; 1 sp. no locality; 1 juv. Santo Domingo de los Colorados.

Conurus leucophthalmus P. L. S. MÜLL. — 1 sp. Santo Domingo de los Colorados.

Ognorhynchus icterotis MASS. & SOUANC. — 1 ♂, $^{15}/_6$, Piganta, western side of Mojanda, 8600 f.

Amazona ochrocephala GML. — 1 ♂, $^9/_11$ 1916, near Archidona near river Napo, 4000 f. This specimen is rather remarkably large, as its length of wing amounts to 233 mm., while this measurement by SALVADORI (Cat. Birds B. M.) is recorded to 8,5 in. and by REICHENOW (Die Vögel) to 220 mm. If this great size is an individual variation, or if a greater race inhabits the Napo valley cannot be decided on one specimen.

Amazona (farinosa BODD. vel *A.*) *inornata* SALVAD.? — 1 ♂ $^{17}/_3$, near Gualea, 4000 f. Geographically this bird ought to have the latter of these names, the more so as it has no yellow on the head, but its dimensions are small with the length of wing only amounting to 237 mm. and it resembles thus *farinosa* more in this respect.

Amazona mercenaria TSCH. — 1 ♂, $^{10}/_7$, below Gualea, 3000 f.; 1 ♂ $^{24}/_8$ below Mindo, 4000 f.; 1 ♂, $^{10}/_6$, Piganta, western side of Mojanda, 8000 f.; 1 sp. without locality.

Consul SÖDERSTRÖM says, that it sometimes is found in the woods of Piganta and Urubi up to an altitude of 8000 f., but it is common in the woods around Intag at an altitude of 3—4000 f.

Pionus corallinus BP. — 1 sp. $\frac{4}{7}$, near Gualea, 4000 f.; 1 sp. $\frac{13}{9}$, below Mindo, same altitude.

Pionus seniloides gerontodes FINSCH. — 1 ♂, $\frac{20}{5}$, 1 ♀, $\frac{13}{6}$, 1 ♀, $\frac{7}{10}$, Alonguinche, 9000 f.; 1 ♂, $\frac{23}{1}$, 1 ♂, $\frac{20}{10}$, 1 ♂, $\frac{31}{12}$, Piganta, western slope of Mojanda, 8—9800 f.

Pionus chalcopterus FRAS. — 6 specimens of both sexes collected in the months of July, August and Oct. at and near Gualea, 4500—5000 f. Out of these two have the inner edges of the tail-feathers reddish towards the base, the others verditer-blue. This variation is thus purely individual.

Pionopsitta barrabandi KUHL. — Two males and a female, all collected in the month of Dec. near river Curaray, El Oriente, about 1000 f.

Pionopsitta pulchra BERL. — Two males and two females, collected near Gualea in Sept.—Oct. at an altitude of 4000 f.

Steatornis caripensis HUMB. — 1 ♀, $\frac{10}{11}$, 1 ♂, $\frac{4}{11}$, 1 ♂, $\frac{8}{11}$, stone-quarries outside Quito, 9500—10000 f.; 1 ♀, $\frac{20}{1}$, Pichincha, »amongst the rocks», 13000 f.; 1 sp. without locality. On some of the labels Consul SÖDERSTRÖM has remarked, that the specimen has been brought to him alive. He says also that it is rather rare, but sometimes found in the quarries above Quito, »below Mindo in the woods it is more common».

The well known variation in size in these birds is very apparent in these specimens as well, the smallest having a length of wing amounting to only 268 mm., while the same dimension of the largest is 310 mm. In these collections the males are smaller than the females.

Ceryle torquata LIN. — An adult male without locality and a young male from fish-ponds in the Chillo valley $\frac{20}{2}$, 8570 f. It is stated to occur sometimes at the artificial fish-ponds at the locality mentioned.

Ceryle amazona LATH. — 1 ♂, $\frac{7}{10}$, river Machangara, below Quito, 9000 f. »Found but rarely along the river Machangara, just below Quito» (L. S.).

Ceryle americana GML. — 1 ♂, $\frac{4}{10}$, below Gualea, 3000 f.; 1 ♀, $\frac{23}{3}$, river Machangara below Quito. The bill of the male is rather large, culmen measuring 46 mm., thus similar

to that of *C. a. cabanisi*, but the under tail-coverts are much spotted, etc.

Prionornis platyrhynchus platyrhynchus LEADB. — 1 ♂, $\frac{11}{6}$, Gualea, 5000 f. This specimen agrees otherwise with the description in Cat. Birds B. M., but the under wing-coverts are not »rufescent» but dark grey, not contrasting to the under surface of the quills, except those near the edge which are green like in the normal bird. In addition to this the dimensions are considerably larger than those recorded in the work quoted, where the length of wing is recorded to be only 4,3 in. or about 108 mm. In this specimen it is about 125 mm. REICHENOW puts the same measurement to 130 mm. The central tail-feathers are in this specimen 212 mm. (against 6,7 in. Cat. Birds B. M.). This fact appears to confirm HARTERT's view¹, that there are two different races of this species and that our specimen belongs to the typical southern form, which is the larger.

Momotus lessoni aequatorialis GOULD. — 1 ♂, $\frac{18}{3}$, 1 ♀, $\frac{4}{12}$, below Baeza road to Napo, 4500—5500 f.

Momotus lessoni gualeae n. subsp. — 1 ♂, $\frac{3}{10}$ below Gualea, 3000 f. Local name: »Pajaro Perro».

Similar to *M. l. aequatorialis* in size or perhaps a little larger as this male is as large as the female of the former. The most apparent difference consists in the much stronger development of the violet which encircles the blue cincture of the crown as a continuous band from above the eye and all round the nape. There is no blue line below the black cheeks as in *M. lessoni*, but only a few green feathers as in *M. l. aequatorialis*. The colour of the lower parts are less pure green than in the latter and has a distinct tawny shade, except on the fore-neck in front of the black patch, where a pure green shade prevails. Length of wing 163 mm.; longest tail-feathers 308 mm. The difference is of course not so very great, although nevertheless well conspicuous. It is the representative of *M. l. aequatorialis* on the western side of the Andes, and it is of interest to state that this race of Western Ecuador as in several other cases shows affinities to the races inhabiting Central America.

¹ Nov. Zool. vol. 5, p. 498.

Momotus microstephanus argenticinctus SHARPE. — 1 ♂, below Gualea, 3000 f. The cincture round the black coronal patch is greenish blue, but broadly tipped with violet on the nape.

Urospatha martii semirufa SCL. — 2 ♂♂, $\frac{12}{7}$, Santo Domingo de los Colorados, 3000 f.; 1 sp. near Gualea; 2 sp. near Nanegal.

Nyctibius jamaicensis griseus GML. — 1 ♂, $\frac{20}{7}$, Milligalli, western side of Corazon, 6000 f.; 1 ♀, $\frac{15}{6}$, near Gualea, 5500 f. Length of wing resp. 280 and 263 mm.

»Has a scream like people in distress. It screams generally at new moon-time. When the people hear this bird screaming, they are afraid and say, that ill luck will come to them.» (L. S.)

Stenopsis ruficervix SCL. — 15 specimens of both sexes collected at the following localities during the months March to November, thus practically the whole year: outside Quito, 9400 f.; neat Nono, 9000 f.; Lloa, 10000 f.; Pichincha, 10500 f.; Fanlagua, 16 miles north of Quito, about 8000 f.; road to Guapulo, north of Quito, 9000 f.; near Zambiza, 7 miles northeast of Quito, 7500 f.; foot of Atacatzto, southwest of Quito, 10,000 f. In addition to these there is a not fully fledged young bird collected on the northwestern slope of Mount Corazon, 12000 feet $\frac{20}{6}$.

Local name: »Compadre Gaspar».

This species is evidently the common Nightjar of the high plateau around Quito.

Chaetura zonaris altissima CHAPM. — 1 ♂, $\frac{22}{11}$, 1 ♀, $\frac{20}{9}$, Chillo valley, south-east of Ouito, 8500 f.; 1 ♂, $\frac{1}{10}$, on the side of Mount Corazon, 10000 f.; 1 ♀, $\frac{6}{2}$, river Machangara, below Quito, 9300 f.; 1 ♂, $\frac{2}{5}$, La Carolina. »Occurs in flocks of from 10 to 60, circling round and round, breeds in small caves above Quito and other places, mostly found at the edge of the Paramo, sometimes in large flocks ascending above Quito. At La Carolina they come down quite close to the ground.» 1 ♂, $\frac{8}{1}$, above Qutio, in a small cave 10500 f., nest of moss with two naked young ones (the female escaped). »Found on Pichincha, Corazon etc.» (L. S.). Length of wing 213—226 mm.

Chætura zonaris albicincta CAB. — 1 sp. without locality (presumably from lower altitude) is easily recognized on its small size and blackness.

Doryfera ludovicæ rectirostris GOULD. — »La Viuda», »Quinde Viuda». 1 ♂, 1 ♀, Milligalli, Mindo. May—June; altitude 6000 feet.

Androdon aequatorialis GOULD. — »Pico de Sierra.» 1 ♂ ad. ♂ juv. 2 ♀♀, Santo Domingo de los Colorados & Pechahal. June—July; altitude 3000 f.

The bill of the young male is similar to that of the female, but the colour of the plumage is that of the adult male.

Threnetes cervinicauda GOULD. — »Muerte pecho amarillo Napo.» 1 ♂, Archidona.

The whole year; altitude 2000—3000 f. The single specimen is somewhat smaller than HARTERT'S measurements indicate.

Phaëtornis guyi LESS. — »Muerte oreja blanca.» 1 ♂ (♀), Santo Domingo de los Colorados, November—December; altitude 3000 f. The rectrices are basally green, but the tail-coverts are also green. Wing about 60 mm., but worn at the tip.

Phaëtornis yaruqui BOURCIER. — »Muerte negro.» 3 ♂♂, Gualea, Intag, Nanegal. The whole year; altitude 4000—5000 f.

Phaëtornis baroni HARTERT. — »Muerte ceniza.» 2 ♂, Nanegal, Intag, Gualea. The whole year; altitude 5000 f.

Phaëtornis syrmatophorus berlepschi HART. — »Muerte amarillo.» 1 ♂, 1 sp., Milligalli. May—June; altitude 6000 f.

Phaëtornis atrimentalis LAWRENCE. — »Muerte chiquito.» 1 ♂, 1 ♀, Molino de Sibambe, Gualea. The whole year; altitude 4000—5000 f. The male has the dark throat not much striated and the under tail-coverts almost white; the female (?) has the throat lighter, but the under tail-coverts pale buffish. Rostrum of the male 23,5 mm., wing about 40 mm.

Eutoxeres aquila baroni HARTERT. — »Pico curvo Santo Domingo.» 1 ♂, Santo Domingo de los Colorados, The whole year; altitude about 3000 f.

Campylopterus obscurus aequatorialis GOULD. — »Ceniza grande Napo.» 1 ♂, Archidona, Napo. The whole year; altitude 1000—3000 f.

Campylopterus lazulus VIEILL. — »Quinde real Baeza.» 1 specimen, $\frac{10}{1}$, Baños, Baeza, Road to Napo. November—January; altitude 6000 feet.

The central rectrices of this specimen are bright green only with an elongate narrow chestnut spot along the shaft in the middle, otherwise it agrees with the description.

Campylopterus villaviscensio BOURCIER. — »Cabeza Dorada Napo.» 1 ♂, along the river Napo. December—April; altitude 2000—3000 feet.

Florisuga mellivora LIN. — »Dominicano.» 1 ♂, 1 ♀, Intag, Nanegal, and below Mindo. The whole year; altitude 5000—6000 feet.

Patagona gigas VIEILLOT. — »Trochino.» 1 ♂, 1 ♀, Cumbaya, Tumbaco, Pomasqui.

The whole year; altitude 6000—9000 feet. These localities appear to be near the northern boundary line of this species. The dimensions of the specimens are rather small.

Argyrtria viridiceps GOULD. — »Monja Cravata blanca.» 1 ♂, 2 ♀, Niebli, Mindo.

The whole year; altitude 6000—7500 feet.

Argyrtria amabilis GOULD. — »Pecho Morado de la Costa.» 1 ♂, $\frac{1}{7}$, Babahoyo, Iaguache. June—September. Altitude 500—3000 feet.

Argyrtria reini BOURCIER. — »Pecho Morado.» 1 ♂, Santo Domingo, and above Babahoyo. May to September; altitude 100—3000 feet.

Amazilia fuscicaudata FRAS. — »Cola café del Monte.» 4 specimens, Nanegal, Gualea, Mindo.

The whole year; altitude 6000—7000 feet.

Amazilia dumerili LESSON. — »Bariga café.» (Pecho blanco). 1 ♂, $\frac{24}{7}$, Babahoyo. May—June; altitude 50—500 feet.

Hylocharis grayi DELATRE & BOURCIER. — »Chotas.» 3 ♂♂♂, 2 ♀♀, Valley of Chotas, province of Imbabura.

The whole year; altitude 6000—7000 feet.

Chrysuronia oenone LESSON. — »Pecho azul Napo.» 1 ♂, 1 ♀, along the river Napo. The whole year; altitude 2000—3000 feet. January 1000—2000 feet.

Damophila julie felicianana LESSON. — »Morado.» 3 ♂♂♂ ad., 2 ♂♂ juv., 2 ♀♀. Babahoyo, Iaguache, Naranjito, Milagro. May to September; altitude 50—500 feet.

Chlorostilbon melanorhynchus GOULD. — »Quinde Verde.» 5 ♂♂, 2 ♀♀, Valley of Chota, Cumbaya, Tumbaco, and also at the coast. Mostly in June. 50—8500 feet.

Thalurania hypochlora GOULD. — »Luis Felipe Naranjito.» 1 ♂, 1 ♀, Iaguache, Naranjito, Babahoyo. The whole year, mostly 500—1500 feet. Some few of the hindmost feathers of the glittering green cap have a blue or nearly violet blue lustre in this male specimen.

Thalurania nigrofasciata GOULD. — »Luis Felipe Napo.» 1 ♂, Archidona. The whole year (January). 3000—5000 feet.

Thalurania fannyi verticeps GOULD. — »Luis Felipe.» 2 ♂♂, 2 ♀♀, Intag, Nanegal, Mindo. The whole year; 5000—6000 feet.

One of the males has a slight trace of blue gloss on a few of the hindmost feathers of the crown. There are two females labeled as belonging to this species. One of them has the abdomen as described by OBERHOLSER »dull brownish slate color glossed with metallic green», the other has the whole lower surface dull grey with a metallic green patch on the sides of the breast. It is, however, possible that the latter is a female of *Th. hypochlora* (?).

Colibri delphinae LESSON. — »Quinde real barroso.» 2 ♂♂, 1 ♀, Mindo, Nanegal. The whole year; altitude 6000—7000 feet.

Colibri cyanotus BOURCIER & MULSANT. — »Quinde real Monte.» 3 specimens, Mindo, Milligalli, Nanegal. The whole year; altitude 5500—6000 feet.

Colibri iolotus GOULD. — »Quinde real.» 6 specimens, Quito, Chillo, Tumbaco. The whole year, altitude 8000—10000 feet.

Anthracothorax violicauda iridescens GOULD. — »Quinde real Jaquache.» 1 ♂ Milagro, Jaguache. May—June; altitude 50—500 feet.

Oreotrochilus chimborazo DELATTRE & BOURC. — »Quinde Chimborazo.» 2 ♂♂, 1 ♀. On Mount Chimborazo only. The whole year; altitude 13500—14500 feet.

Oreotrochilus chimborazo jamesoni JARDINE. — »Pecho blanco.» 3 ♂♂, 1 ♀, Pichincha near the crater, Antisana. The whole year; altitude 14000—15000 feet.

Oreotrochilus chimborazo söderströmi, n. subsp. — »Pecho blanco Zalamala.» 1 ♂, Only found at the foot of Quillotoa. November—January, altitude 12000—13000 feet.

Similar to *O. ch. jamesoni*, thus the throat shining violet-blue, but five or six of the lower series of feather are distinctly, although narrowly margined with shining green.

This bird is consequently intermediate between *chimborazo* and *jamesoni*, but it is for the present impossible to say, whether it is a local subspecies, or a hybrid between the two others. Consul SÖDERSTRÖM's statement that this bird only occurs at the locality mentioned, and the fact that it has a local name, appears to speak for the assumption, that it really is a subspecies. It also lives at somewhat less altitude than the others.

Urochroa bougeri BOURC. — »Compañere Vicente.» 1 ♂, 1 ♀, Milligalli, Mindo. May—June, altitude 6000 feet.

These two specimens agree with description of *U. bougeri*, but the shining blue extends all over the breast and meets the green on the flanks. The outermost rectrix only white at the base, otherwise black. Both sexes have a broad rust-red spot at the gape to below the eye.

Length of wing of the male 80 mm.

Phœolæma aequatorialis GOULD. — »Quinde Canchacoto.» 2 ♂♂, 2 ♀♀, Canchacoto, Camino de Chones. May to June; altitude 5500—6000 feet.

Heliodoxa jacula jamesoni BOURCIER. — »Platanero.» 2 ♂♂, 2 ♀♀, Nanegal, Mindo, Gualea. The whole year; altitude 5000—6000 feet.

Ionolæma schreibersi BOURCIER. — »Estrella Morado Napo.» 1 ♂, Archidona, Napo. The whole year; 1000—3000 feet.

Eugenia imperatrix GOULD. — »Quinde Emperatriz.» 1 ♂ ad., 1 ♂ juv., 2 ♀♀, Orongo, road to Gualea. The whole year; altitude 5500—6500 feet.

Helianthea lutetiae DELATTRE & BOURCIER. — »Ala blanca.» 3 ♂♂ ad., 1 ♀, western side of Corazon, May to June; altitude 9000—10500 feet.

Helianthea lutetiae hamiltoni GOODFELLOW. — »Ala blanca.» 1 ♂, 1 ♀. Road to Baeza; below Papallacta. Mostly May—June; altitude 9000—10500 feet.

The characteristics mentioned by GOODFELLOW, by which this form is to be distinguished from the typical *H. lutetiae*, are easily seen both in male and female. It can also be added, that the glittering spot on the foreneck of the male is not violet like that of the typical *H. lutetiae*, but more pure blue almost spectrum blue.

Helianthea fulgidigula GOULD. — »Cravata blanca.» 3 ♂♂, 2 ♀♀, western slope of Pichincha. The whole year; altitude 6000—7000 feet.

Helianthea caeligena columbiana ELLIOT. — »Quinde Ceniza.» 1 ♂, Baeza, road to Napo. November—January; altitude 5000—6000 feet.

Helianthea wilsoni DELATTRE & BOURCIER. — »Plomo.» 3 specimens, Nanegal and Mindo. The whole year; altitude 5000—6000 feet.

Diphlogæna hesperus GOULD. — »Cabeza de fuego.» 1 ♂. Pallatanga, old road to Puente de Mimbo. May—June; altitude 9000 feet. This species is stated to be rare.

Lafresnayeia saul DELATTRE & BOURCIER. »Pico curvo Lloa.» 2 ♂♂, 1 ♀, eastern side of Pichincha, San Ignacio, May—June; altitude 11000 feet.

Ensifera ensifera BOISS. — »Pico largo.» 2 ♂♂, 1 ♀, Corazon, Pichincha. Mostly May—June, altitude 11000—12000 feet.

Pterophanes temmincki BOISS. — »Quinde Gruezo.» 2 ♂♂, 1 ♀, Pichincha, Corazon. The whole year; altitude 11000—12000 feet.

Aglaeactis cupripennis BOURC. & MUTS. — »Quinde café Pichincha.» 6 specimens, Corazon, Pichincha. The whole year; altitude 11000—13000 feet.

Boissoneaua jardinei BOURC. — »Vicente.» 4 specimens, Mindo, Nanegal. The whole year; altitude 6000 feet.

Boissonneaua matthewsi BOURC. — »Quinde café Guela.» 1 ♂, 1 ♀, Baeza, Baños. The whole year; altitude 6000 feet.

Boissonneaua flavescens tinochlora OBERHOLSER. — »Quinde Café del Monte.» 2 ♂♂, 1 ♀, Milligalli, Mindo. The whole year; altitude about 6000 feet.

Vestipedes luciani BOURC. — »Pata blanca.» 8 specimens. Pichincha, Corazon. The whole year; altitude 11000—12000 feet.

Vestipedes vestitus smaragdinipectus GOULD. — »Pata blanca maspa.» 1 ♂, Maspa, below Papallacta. December—January; altitude 7000—8000 feet.

Vestipedes mosquera DELATTRE & BOURC. — »Dorado.» 1 ♂, 1 ♀, Mojanda, (rare). November—March; altitude 11000 to 12000 feet. Consul SÖDERSTRÖM states, that this species now is extinct on the Pichincha.

The green on the under tail-coverts is very slightly developed. Both specimens have white bases to the feathers of the throat.

Vestipedes lugens GOULD. — »Monja negra.» 1 ♂, below Nanegal, Palma Real, and Gualea. May—July, altitude 3000—4000 feet. Rare.

Vestipedes nigrivestis BOURC. & MULS. — »Negro Jamesoni» = ♂, »Dorado Jamesoni» = ♀. 2 ♂♂, 4 ♀♀, western slopes of Pichincha. May—June, altitude 9000—10000 feet.

Vestipedes russata GOULD. — »Pata blanca maspa.» 1 ♂, Maspa, below Papallacta, and below Baeza. January, altitude 5000 feet.

Vestipedes derbyi DELATTRE & BOURC. — »Pata negra.» 2 ♂♂, 1 ♀, San Gabriel, Tulcan, Hunca, Prov. Carchi. November—January; 10000—11000 feet.

The bill of the female is 19 mm., that of the males resp. 18 and 20 mm. It appears thus difficult to maintain HARTERT's subspecies »*longirostris*».

Ocreatus melanantherus JARDINE. — »Tijereta.» 2 ♂♂, 3 ♀♀, Gualea, Canchacoto, Mindo. The whole year; altitude about 6000 feet.

One of the females exhibits a very interesting anomaly. It is otherwise in normal female plumage, but has the right

lateral rectrix prolonged and spatulelike, quite as in a male, although not quite as long (total length 66 mm.), and with the vane on the shaft proximally from the spatule not fully so much reduced as in a male. On the left side the corresponding rectrix is missing. It would have been of great interest to examine more closely the anatomy of this specimen. Now nothing more is known in this respect than that it must have had an ovary, because it is expressly stated on the label that it is a female, and then such a one in partly arrenoid plumage.

Ocreatus cissiurus GOULD. — »Tijereta Baeza.» 1 ♂, Baños & Baeza, Eastern Cordillera. November—January; altitude 6000 feet.

Urosticte benjamini BOURCIER. — »Cineo reales.» 2 ♂♂, 2 ♀♀, Intag, Gualea, Mindo. The whole year; altitude 5000—6000 feet.

Adelomyia melanogenys maculata GOULD. — »Sombredero.» 3 specimens, western slope of Pichincha. The whole year 8000—9000 feet.

Heliangelus strophianus GOULD. — »Cravata malva.» 5 specimens, Mindo, Nanegal. The whole year, altitude 6000—7000 feet.

Heliangelus exortis FRASER. — »Cravata malva Maspa.» 2 ♂♂, 2 ♀♀, Maspa below Papallacta. December—January; altitude 7000—8000 feet.

Wing of males about 69 mm.

Heliangelus viola GOULD. — »Cravata malva de Angas.» 1 ♂, 1 ♀, Old road from Guaranda to Babahoyo. The whole year; altitude 7000—8000 feet.

Laticauda primolina BOURCIER. — »Quinde Ubillus Cayambe.» 1 ♂, 2 ♀, Papallacta, eastern side of Cayambe. The whole year; altitude 11000—12000 feet.

According to REISS and STÜBEL the mean temperature of Papallacta is only + 9°.

Laticauda tyrianthina quitensis GOULD. — »Ubillus comun.» 2 ♂♂, 3 ♀♀, Corazon, Pichincha. The whole year; altitude 12000—13000.

Chalcostigma herrani DELATTRE & Bourcier. — »Ubillus

fino». 2 ♂♂ ad., 1 ♂ juv., 2 ♀♀, Pichincha, November—February; altitude 11000—12000 feet.

Professor G. LAGERHEIM has found, that this and the foregoing species transfer the pollen of *Brachyotum sedifolium* and other flowers.¹

Chalcostigma stanleyi BOURCIER. — »Negro de Pichincha.» 1 ♂, 1 ♀, Pichincha, Antisana. The whole year; altitude up to 15000 feet. This species has according to Consul SÖDERSTRÖM the highest habitat.

Rhamphomicron microrhynchum BOISSONNEAU. — »Obispo.» 3 ♂♂ ad., 2 ♂♂ juv., 2 ♀♀, Pichincha, Corazon. February—May; altitude 10000—12000 feet.

The young males in speckled plumage have the forehead more or less dark blue.

Opisthoprora euryptera LODDIGES. — »Pico curva Maspá.» 1 ♂, Maspá, below Papallacta, on the road to Napa. November to January; altitude 7000—8000 feet.

Several years ago OBERHOLSER recorded the first specimens of this species from Ecuador, and he says, that his specimens »are exactly like a specimen from Colombia». The present specimen appears, however, to indicate that the specimens from Ecuador are rather larger as it has the length of wing fully 65 mm., while HARTERT has indicated this measurement to be only 62 mm.

Cyanolesbia kingii mocoa DELATTRE & BOURCIER. — »Cola verde.» 1 ♂, 1 ♀. Baeza, Baños, Eastern Cordillera. The whole year; altitude 6000 feet and higher.

Cyanolesbia coelestis GOULD. — »Cola azul.» 3 ♂♂ ad., 1 ♂ juv., 2 ♀♀, Milligalli, Nanegal, Mindo etc. The whole year; altitude 5500—6000 feet.

Psalidoprymna victoriae aequatorialis BOURCIER. — »Cola larga.» 7 ♂♂, 5 ♀♀, Valley of Chillo, Tumbaco, Quito. The whole year; altitude 8000—11000 feet. One of the specimens labeled as female has a remarkably long tail.

Psalidoprymna gouldi gracilis GOULD. — »Pelargallo.» 3 ♂♂, 1 ♀, Tumbaco, Cumbaya, below Nono. The whole year; altitude 7000—9000 feet.

¹ Über die Bestäubungs- und Aussäungseinrichtungen von *Brachyotum ledifolium* (DESS.) Cogn. Bot. Not. 1899.

Schistes albogularis GOULD. — »Oreja de fuego.» 1 ♂, 1 ♀, Milligalli, Mindo. May—June; altitude 6000 feet.

Heliothrix auritus major n. subsp. — »Angel Quinde cabeza dorado»; »Oreja malva». 1 ♂, Pisagua near Babahoyo. June—July; altitude 500—1500 feet.

Heliothrix auritus auritus is said to live only on the eastern side of the Andes mountains (see f. i. HARTERT: *Trochilidae* p. 187). The locality recorded above is, on the western side, and it is more than probable, that in the latter locality lives a larger race as the length of the wing of the present specimen measures fully 69 mm. in length (against 61 recorded for the typical race).

Heliothrix barroti BOURCIER & MULSANT. — »Angel Quinde»; »Cabeza morado». 1 ♂, Pisagua above Babahoyo. Most of the year altitude 500—3000 feet.

Floricola albicrissa GOULD. — »Garganta de fuego.» 1 ♂, Near Guayaquil, Iaguache, Milagro. Mostly May—July; altitude 0—100 feet.

Myrtis fanny LESSON. — »Quinde Prelado». 3 ♂♂, 3 ♀♀, Zambiza, Tumbaco. The whole year; altitude 8000—9000 feet.

Myrmia micrura GOULD. — »Soldado Guayaquil.» 1 ♂, Savana, Guayaquil. July—August; altitude 50—300 feet. OBERHOLSER has also recorded a male from Ecuador, but formerly it was not known from that country.

Calliphlox mitchelli BOURCIER. — »Soldado del Monte.» 3 ♂♂, 1 ♀, Milligalli, Mindo. The whole year; altitude about 6000 feet.

Chaetocercus mulsanti. — »Soldado Tumbaco.» 2 ♂♂ ad., 3 ♂♂ juv., 3 ♀♀, Cumbaya, Tumbaco, Zambiza, Quito (rarely) etc. The whole year; altitude 8000—11000 feet.

Chaetocercus heliodor BOURCIER. — »Cigarro Baeza.» 1 ♂, Below Baños, below Baeza. November—April; altitude 4000—5000 feet.

Chaetocercus bombus GOULD. — »Cigarro.» 3 ♂♂, 1 ♀, Babahoyo, Naranjito, Quindiva. The whole year; altitude 50—2000 feet.

Popelairia langsdorffi TEMMINCK. — »Cola huezo Napo.» 1 ♂, 1 ♀, Archidona, Napo. The whole year; altitude 1000—3000 feet.

The feathers below the glittering green of the breast are not »fiery-red» but rather golden green in the present male. This may, however, be an individual aberration as the species has been recorded from Napo before.

Popelairia conversi aequatorialis BOURCIER & MULSANT. »Cola huezo.» 1 ♂, 1 ♀, above Babahayo, Santo Domingo. Most of the year; altitude 50—3000 feet.

Lophornis reginæ GOULD. — »Coqueta Napo»; »Quinde cabeza cresta». 1 ♂, Macas, along the river Curaray. The whole year; altitude 1000—3000 feet.

Pharomacrus antisimensis D'ORB. — 2 ♂♂, $\frac{16}{3}$, near Baeza, road to Napo, 5500 f.; 1 ♂ $\frac{30}{4}$, 1 ♂ $\frac{24}{8}$, Anagumba, near Piganta western side of Mojanda, 7500 f.; 1 ♂, $\frac{20}{5}$. Alonguinche, south side of Mojanda, 9000 f.; 1 ♂, $\frac{10}{7}$, Milligalli, road to Santo Domingo de los Colorados, 6000 f.

Pharomacrus auriceps heliactin CAB. & HEINE. — 3 males, $\frac{20}{6}$, $\frac{16}{8}$, $\frac{20}{8}$, below Milligalli, 5500 f.; 2 females $\frac{10}{7}$ near Nanegal 5500 f.; 1 ♀, $\frac{7}{12}$, near Mindo, the same altitude. The length of the wing of these specimens is about 190—194 mm., thus smaller than recorded for Peruvian birds, which may constitute a racial difference.

A fine male specimen from the neighbourhood of Baeza ($\frac{16}{3}$ 1918), thus from the eastern side, has somewhat longer wing, about 200 mm. Its bill has evidently had a more saturated colour than that of the specimens from Milligalli, perhaps reddish yellow. It is, however, difficult to say, if any importance can be laid on this.

Trogonurus personatus GOULD. — 3 males and 2 females from Canchacoto on the road to Santo Domingo, 6000 f.; 1 male and 1 female from Mindo 6000 f.; 2 males from Gualea; 2 males and a female from Piganta, southwestern side of Mojanda, 8600 f. Concerning the localities Mindo and Gualea Consul SÖDERSTRÖM states, that this species is to be found there the whole year.

It is of interest to see, that the males, even from the same locality vary very much with regard to the degree of blue in

the metallic gloss on the head, and also on the upper tail-coverts, although perhaps not quite so much. The blue specimens correspond no doubt to *T. heliothrix* TSCHUDI, which thus is only an individual variation found in Ecuador as well. The specimens with blue gloss have as a rule paler, less yellow bills, and they give the impression of being less mature.

Trogonurus collaris virginalis CAB. & HEINE. — 1 male from Mindo; 1 female from Gualea.

Trogonurus curucui LIN. (*T. rufus* GML.) subsp. *atricollis* VIEILL.? — Male and female from below Gualea. These two specimens do not belong to the subspecies, *cupreicauda*, which CHAPMAN has described from western Colombia, because there is a conspicuous white band between the green of the chest and the yellow of the abdomen in the male; and a rather broad grey band in the female at the junction of the brown and yellow. The central tail-feathers are metallic green in the male. With the present unsatisfactory status of our knowledge about the races of *T. curucui* it is difficult to express any definite opinion about the race inhabiting western Ecuador.

Trogon strigilatus chionurus SCL. & SALV. — 1 ♂, 1 ♀, $\frac{3}{11}$, Santo Domingo de los Colorados, 3000 f. The female has the three outer tail-feathers tipped and barred with white. The white pattern thus varies greatly in this species.

Coccyzus americanus LIN. — 1 ♂, $\frac{23}{4}$, below Nono, 8000 f.; 1 ♀, $\frac{10}{12}$, 1 ♀, $\frac{20}{3}$, 1 ♂ $\frac{1}{4}$, 1 ♀ $\frac{20}{4}$, Cumbaya, 6 miles east of Quito, 8000 f. It is stated to be »rare», but sometimes found at Cumbaya, mostly single, but Consul SÖDERSTRÖM has also met with the same in the woods below Nono. »It feeds on insects and caterpillars.»

Coccyzus americanus occidentalis RIDGW. — 1 ♀ $\frac{24}{3}$, above Guapulo, 8800 f. This specimen is decidedly larger than the other ones, wing 150 and tail 147 mm., and may thus correctly be referred to the western race.

Coccyzus melanocoryphus VIEILL. — 2 males collected at Cumbaya in Febr.

Coccyzus erythrophthalmus WILS. — 1 ♀ $\frac{3}{4}$, Guapulo, 3 miles east of Quito, 9000 f.; 1 ♂, $\frac{23}{4}$, near La Carolina.

Piaya cayana nigricrissa SCL. — 1 ♂, $\frac{5}{4}$, road to Gualea,

5500 f.; 1 ♂ $\frac{4}{11}$, 1 ♂ $\frac{10}{12}$, 1 ♀ $\frac{15}{12}$, Canchacoto, road to Chone, 6000 f.; ♂ & ♀ $\frac{20}{6}$, Santo Domingo de los Colorados, 3000 f.; 1 ♂, $\frac{12}{10}$, Mindo, 5500 f.

Piaya rutila gracilis HEINE. — 1 ♂ $\frac{5}{4}$ 1919, near Gualea, 5500 f. This race is very much paler on head, neck and chest than specimens from f. i. Surinam, and thus easily recognised.

Neomorphus radiolosus SALV. — 1 ♂ $\frac{11}{6}$, 1920, Gualea, 5000 f. It may be remarked, that this specimen possesses a well defined black band across the breast, which otherwise as well in front of as behind this band is barred with white. The light bars on the forehead and front of the crown are buffish white (not »brownish buff»), the outer tail-feathers and the tips of the middle ones have a purplish gloss. The abdomen is not uniform, but barred with dirty white, although more finely than the breast. As we have only one specimen we cannot decide, whether these differences are constant or not.

Tapera naevia excellens SCL. — 1 ♂ $\frac{20}{11}$, Fanti road to Manabi, 4000 f. As the length of wing of this specimen is 116 mm., it may be counted to the larger Central American race. According to Consul SÖDERSTRÖM it is rare in Ecuador.

Capito (Eubucco) bourcieri aequatorialis SALVAD. & FESTA — 1 ♂, $\frac{24}{2}$, Rio Blanco, below Mindo, 4000 f.; ♂ & ♀ $\frac{20}{11}$, Santo Domingo de los Colorados, 3000 f. The red of the males does not extend on to the lower breast, but the colour of the latter is not as RIDGWAY says deeply orange (Birds N. & M. Am. Vol. VI, 1914, p. 315). On the contrary the colour of the breast is pure yellow or lemon yellow. The discrepancy is due to the fact that the author quoted had not seen the true *aequatorialis*, but Colombian specimens later on named *occidentalis* by CHAPMAN. MENEGAUX has 1911 (Mission Mes. Arc. Merid. Equat., Zoologie, T. 9, B. p. 23) correctly re-described the males of this subspecies and also pointed out the resemblance between the female of the same and that of the Central American *C. b. salvini* SHELLEY.

Semnornis rhamphastinus JARD. — 2 males and a female from Milligalli, road to Chone, 6000 f., all collected in March.

Rhamphastos swainsoni GOULD. — 1 ♂, $\frac{3}{3}$, below Mindo,

4000 f.; 1 ♂, $\frac{11}{6}$, Gualea western side of Pichincha, 5000 f.; 2 sp. without locality. Local name: »Perdicador».

Rhamphastos ambiguus SWAINS. — 3 males collected $\frac{21}{3}$ below Baeza road to Napo, 5500 f. This and the following Toucans substitute each other on either side of the Andes.

Rhamphastos ambiguus abbreviatus CAB. — ♂ & ♀ $\frac{4}{8}$, 1 ♂ $\frac{28}{9}$, near Gualea 4000 f.; 1 ♂ $\frac{7}{10}$ near the same locality but altitude 4500 f.

With regard to colour these specimens from Gualea are quite similar to those from the western side of the Andes, but there is a very remarkable difference in size between the two groups of specimens. This difference is plainly seen from the following measurements:

| | <i>R. ambiguus</i> from Baeza | | | <i>R. a. abbreviatus</i> from Gualea | | | |
|--------------------------|----------------------------------|-----|-----|---|------|------|------|
| | 155 | 154 | 138 | 153 | -124 | -123 | -122 |
| Culmen | 155 | 154 | 138 | 153 | -124 | -123 | -122 |
| Height of bill at casque | 54 | 51 | 49 | 35 | -42 | 42 | -42 |
| Length of wing | 242 | 236 | 238 | 202 | -198 | -193 | 209 |
| Length of tail | 179 | 177 | 190 | 149 | -148 | 143 | 153 |
| Tarsus | 56 | 54 | 54 | 46 | 49 | 49 | 49 |

It is well known that the Toucans vary in size, especially with regard to their bills, but in these two series we find that the length of the bill is of less importance. The height of the same organ appears to be less variable, and the three other dimensions, although, of course, variable to a certain extent appear to prove very satisfactorily, that there is a thorough-going difference between the Toucans of this species on the different sides of the Andes. To judge from the measurements, which RIDGWAY has published (Birds N. & M. Am., Pt. 6, p. 339) for *R. ambiguus* from Central America, it is evident, that these belong to this smaller race. This is just what could be expected and is in full accordance with many other analogous cases, viz. that there is more resemblance between animals from Central America and such from western Ecuador, than between the former and the corresponding ones from the eastern side of the Andes. SWAINSON'S name *ambiguus* was based on a coloured drawing of an unknown artist and from unknown locality, but, as CHAPMAN has stated, it may be considered, that Buena Vista on »the most eastern» ridge of the Eastern Andes on the trail from Bogota is the type locality of *Rh. ambiguus ambiguus*. This larger form

is thus wholly eastern, while the western representatives in Ecuador as well belong to the small race named *abbreviatus* by CABANIS. This is in full agreement with CHAPMAN'S experience based on specimens from Western Colombia.

Rhamphastos cuvieri WAGL. — 3 males all collected near the river Curaray, El Oriente (about 1000 f.) in Nov.

Rhamphastos culminatus GOULD. — One specimen $\frac{3}{11}$, collected at the River Napo, 3000 f.

Andigena hypoglaucus GOULD. — 1 ♂, $\frac{9}{3}$, 1 ♂, $\frac{22}{3}$, Maspa below Papallacta, 6500 f.; 1 ♂ $\frac{11}{10}$, Baeza, road to Napo, 6000 f.

Andigena laminirostris GOULD. — 3 male specimens from Milligalli, west of Corazon, 6000 f., collected in Sept, and Oct.

Andigena spilorhynchus GOULD. — 3 male specimens from below Baeza road to Napo, 5500 f., collected in March, May and Oct.

Pteroglossus pluricinctus GOULD. — 1 specimen from the road to Napo, about 4500 f.

Pteroglossus erythropygius GOULD. — 4 specimens of both sexes collected in Aug. and Sept. below Mindo 4000 f.; 2 ♂♂, $\frac{12}{9}$ & $\frac{29}{9}$, 1 ♂ $\frac{14}{7}$, near Gualea, 4000 f. There is no doubt, that this species can be regarded as the substitute to the former on the western side of the Andes.

Pteroglossus flavirostris FRASER. — 2 specimens collected on the road to Napo at an altitude of about 4000 feet.

Selenidera reinwardti WAGL. — 1 specimen collected on the road to Napo at an altitude of about 3000 f.

Aulacorhamphus albivittatus BOISS. — 3 ♂♂, $\frac{20}{1}$, $\frac{10}{4}$, $\frac{8}{10}$, 1 ♀ $\frac{20}{3}$, Baeza, road to Napo 5500—6000 f.

Aulacorhamphus haematopygius GOULD. — 3 ♂♂, 2 ♀♀ from Gualea Nov. & Dec., 5500—6000 f.; 1 ♂ $\frac{13}{10}$ from Mindo, 5500 f. The length of wing varies between 122 and 132 mm.

Hapaloptila castanea VERR. — 1 ♂ $\frac{20}{10}$, below Nono, on road to Gualea, 8000 f. Length of wing 110 mm. 1 ♀ $\frac{8}{10}$, road to Mindo, 7000 f. Length of wing 111 mm.

Hypoxanthus rivolii brevirostris TACZ. — 1 ♂ $\frac{7}{12}$, near Lloa, 9000 f.; 1 ♀ $\frac{21}{2}$ near Nono, same altitude; 1 ♂ $\frac{7}{3}$, Cum-

baya, 8500 f.; 1 ♂ $^{13}/_5$, 1 ♂ $^{1}/_{11}$ Guapulo 3 miles north of Quito, 8800 f.; 1 ♀, above La Carolina, 9800 f. Consul SÖDERSTRÖM remarks that this beautiful species generally lives in the upper parts of the forests west and northwest of Pichincha, but that it sometimes appears near Quito.

Chloronerpes rubiginosus rubripileus SALVAD. & FESTA — ♂ & ♀ $^{20}/_4$, below Mindo, 4600 f.; 1 ♂ $^{15}/_5$ near Mindo, 6000 f.; 1 ♀ $^{15}/_6$, road to Gualea, 6000 f. The length of wing of the males do not attain greater length than 110—115 mm., and the throat is spotted to the base of the bill, by which this race according to CHAPMAN differs from the Colombian *Ch. r. gularis* HARG.

Melanerpes pucherani MALH. — Two pairs, ♂ & ♀ from Rio Blanco below Mindo, 3000 f., collected resp. $^{28}/_5$ and $^6/_{12}$.

Veniliornis oleaginus aureus CHAPMAN. — 3 specimens from the neighbourhood of Nanegal.

Veniliornis callonotus WATERH. — 1. sp. $^{15}/_{12}$, Rio Blanco, below Mindo, 3000 f.

Veniliornis nigriceps LAFR. & D'ORB. — 1 ♂ $^6/_{10}$, 1 ♂ $^4/_7$ Mindo about 5000—5500 f.; 4 ♂♂ & 3 ♀♀ from the neighbourhood of Nanegal.

Campophilus guayaquilensis LESS. — 1 ♂ $^1/_3$, below Mindo, 4500 f.

Campophilus pollens BP. — ♂ & ♀ $^{14}/_6$, near Gualea, 5500 f.; 1 ♂ $^{24}/_9$, 1 ♀ $^{26}/_{11}$, near Nanegal, 4400 f.; 1 ♀ $^2/_3$, below Mindo 4500 f.

Campophilus haematogaster splendens HARG. — 1 ♂ & 1 ♀ $^1/_{10}$, 1 ♀ $^{20}/_6$, near Gualea, 4000 f.

Scytalopus magellanicus niger SWAINS. — 1 ♂. 1 ♀ $^{10}/_{11}$, 2 ♂♂, 1 ♀ $^{19}/_2$, Pichincha, 11000 f.; 1 ♂, 1 ♀ $^7/_3$, 1 ♀ juv. $^7/_{10}$, below Calacali, 9000 f.

Myornis senilis LAFR. — 1 ♂ $^{10}/_1$, 1 ♂ $^{20}/_1$, 1 ♂ $^{10}/_9$, Pichincha 11000—11500 f.

| | | | |
|--------------------------|----|----|--------|
| | ♀ | ♂ | ♂ |
| Length of wing | 59 | 65 | 60 mm. |
| » » tail | 60 | 68 | 61 » |

Acropternis infuscata SALV. & FESTA. — 1 ♂ & 1 ♀, $^8/_8$, Chinquil & Pichincha, 9—11000 f.

Myrmelastes immaculatus berlepschi RIDGW. — 2 ♂♂, 1 ♀^{4/4}, Santo Domingo de los Colorados, road to Manavi, 3000 f.; 1 ♂^{7/7}, 1 ♂^{9/7}, 1 ♂^{7/10}, below Gualea, 4000 f. »Always found beside the large anthills, feeds on the ants and their eggs. Local name: »hormiguero«. (L. S.)

Grallaria rufula LAFR. — 8 specimens, Jan.—April and Sept.—Oct. from Pichincha, 11600—12000 f.; 1 ♂, above Nono, 11500 f. These specimens are all of them much brighter below than above and belong consequently to the typical form, not to the dark *G. r. saturata* DOMANIEWSKI & STOLZMANN.

Grallaricula costaricensis LAWR. — 2 ♂♂, 1 ♀ collected in March and May at Mindo 5500 f. These specimens agree completely with RIDGWAY's description of Costa Rica specimens, and CHAPMAN has also recorded the same species from Central Colombia. The brown maxilla of our specimens proves, that they have nothing to do with *G. flavirostris* SCLATER from Eastern Ecuador, and this is thus still another example of greater affinity between the birds of Western Ecuador and those of Central America than with those of Eastern Ecuador. We are also able to confirm CHAPMAN's statement about the variability of the species as one of the males in the present collection has the ochraceous buff more broadly extended over the breast and flanks and at the same time much more vivid than in the other. As the specimens are from the same locality this must be purely individual.

Upucerthia excelsior SCLATER. — 4 ♂♂, 2 ♀♀ collected at various times of the year, Pichincha, 13000 f.; 1 ♀^{21/12} below Guamani W. of Papallaeta, 13000 f.

Cinclodes fuscus albidiventris SCLATER. — 1 ♀^{5/2}, 1 ♂^{9/3}, 1 ♂, 1 ♀^{10/6}, 1 ♂^{5/11}, Pichincha, 13500—14000 feet (below crater).

Leptasthenura andicola SCLATER. — 6 ♂♂ & 4 ♀♀, Pichincha, 13—1400 f. »From 11000 feet up to near the crater of Pichincha.« (L. S.)

Synallaxis brunneicaudalis SCLATER. — 2 ♂♂ & 1 ♀, July, Mindo, 5500—7000 f.; 1 ♂^{20/5}, Nono, 8000 f. Although this species originally was described from Napo, thus from the eastern side of the Andes, we cannot from the descriptions find out any aberrance in these specimens.

Synallaxis pudica SCLATER. — 2 ♂♂ & 2 ♀♀ Febr., below Nono, 9000 f.; 1 ♂ & 1 ♀, Febr., northwestern side of Pichincha, 11000 f.

Synallaxis gularis LAFR. — 2 ♂♂ & 2 ♀♀ Nov.—Dec., Nono, 9—10000 f.; 2 ♂♂ & 2 ♀♀, April—July, Pichincha, 10500—11000 f.

Siptornis flammulata JARD. — 5 ♂♂, 3 ♀♀, Pichincha, 12—13000. Found there the whole year.

Pseudocolaptes boissonneaui LAFR. — 1 ♂ $^{21/7}$, 1 ♂ $^{21/10}$, 1 ♂ $^{24/8}$, above Mindo, 6200 f.; 1 ♀ $^{6/2}$, road to Nanegal, 7000 f.; 1 ♂ $^{3/9}$, 1 ♂ $^{14/12}$, road to Gualea, 6000 f.; 1 ♂ $^{10/7}$, below Papallacta, 7000 f.. Among these specimens only two have especially long bills, but both these are labeled as males.

Pseudocolaptes johnsoni n. sp. — 1 ♀ $^{3/12}$, Baeza, road to Napo, 6000 f.

Pileum and nape brownish black with more or less obsolete narrow buffish shaft-stripes, more conspicuous on the hind-neck. Back and scapular region bright chestnut rufous, rump and upper tail-coverts somewhat more rusty. Tail dull chestnut. Wing-coverts brownish black, margined with rufous. Quills dark brown with the outer web resembling RIDGWAY'S »hazel«, but somewhat more inclining to rufous on the secondaries; the inner web edged with pale cinnamon. Auricular region blackish brown, obsoletely streaked with buffish. Chin, throat and malar region buffy white, mottled with dusky. Subauricular tuft basally creamy white, subterminally buffish yellow, and finally narrowly tipped with dusky. Fore-neck dark sooty brown with whitish central spots, which become gradually more and more broadly edged with buff towards the chest. The prevailing colour of the breast is a bright rusty rufous with dusky margins and narrow whitish shaft-streaks to the feathers. Flanks, belly and crissum bright rust red; under wing-coverts somewhat paler, more ochraceous orange. Wing: 100 mm.; tail 90 mm.; tarsus 26,2 mm.; middle-toe with claw: 23 mm.

This bird is evidently the representative of *P. boissonneaui* on the eastern side of the Andes, and in consequence of this it is provided with more saturated colours. We have taken the pleasure of naming it for Consul General AXEL AX:SON

JOHNSON, who at many opportunities kindly has promoted the interests of this Museum.

Thripadectes flammulatus EYTON. — 1 ♂ $\frac{2}{3}$, 1 ♀ $\frac{10}{7}$, road to Mindo, 7000 f., 1 ♂ $\frac{3}{2}$, road to Nanegal, the same altitude. »Rare». »Makes holes in the hill-sides, comes out and suns itself. Is supposed to sleep in the burrows at night.» (L. S.)

Xenicopsis temporalis SCLATER. — 2 ♂♂, 2 ♀♀, $\frac{20}{4}$ & $\frac{20}{7}$, road to Mindo 6000 f.

Margarornis perlata LESS. — 5 ♂♂, 3 ♀♀, March-Aug., above Lloa, 11000 f.

Dendrocincla tyrannina LAFR. — 1 ♂ $\frac{24}{8}$, Maspa below Papallacta, 7000 f.; 1 ♂ $\frac{16}{11}$, Baeza, road to Napo, 6000 f. Both these specimens are exactly alike. Both show distinct striations on foreneck and pileum. It is thus evident that the same race of this bird occurs on both sides of the Andes.

Xiphocolaptes promeropirhynchus crassirostris BERL. & TACZ. — 1 ♂ $\frac{11}{3}$, Alonguinche South-side of Mojanda, 9000 f.; 1 ♂ $\frac{3}{11}$, 1 ♀ $\frac{20}{2}$, Piganta, western side of Mojanda, 8600 f. The measurements of these specimens are as follows wing: 149, 142, 141 mm.; tail: 132, 127, 113 mm.; culmen 48, 45, 46 mm.

Picolaptes lacrymiger æquatorialis MENEG. — 1 ♂ $\frac{9}{3}$, 1 ♀ $\frac{8}{6}$, 2 ♂♂ $\frac{24}{8}$, road to Gualea 5500—6000 f.; 1 ♀ $\frac{9}{3}$, below Nono 6000 f., 1 ♀ $\frac{7}{7}$, Niebli 7500 f. All these specimens are exactly similar inter se. When compared with *P. lacrymiger* from Bogota, Colombia, the most visible difference appears to be the buffish tint to the throat and also to the stripes of the lower parts, which are white in *lacrymiger*. The greater breadth of the stripes of *lacrymiger* is most conspicuous on the fore-neck and chest.

Dr. MENEGAUX has kindly communicated to us the diagnose of this subspecies, which otherwise had not been accessible. According to the same it chiefly differs from the Peruvian *warszewiczi* in being rufous-looking above (less olive). The shafts of not only the remiges, but also the rectrices are said to be »a peu près noir». In our specimens this holds good for the former, but not for the latter, which always are rufous at the tips, but otherwise in a varying degree are more or less

blackish. The large spots at the ends of the primaries are nearly black. The dimensions are as recorded by MENEGAUX.

Xiphorhynchus aequatorialis BERL. & TACZ. — 1 ♂ $^{10}/_7$, 1 ♀ $^4/_{10}$, Mindo, 5500 f.; 1 ♂ $^{25}/_6$, Gualea, 5000 f.; 1 ♀ $^{12}/_3$, road to Nanegal, 6000 f.

Xiphorhynchus triangularis LAFR. — 1 ♂ $^7/_7$, Maspa below Papallacta, 7000 f.

Campylorhamphus pusillus SCLATER. — 1 ♂ $^{10}/_7$, road to Gualea, 5000 f.; 1 ♂ $^{20}/_{11}$, Santo Domingo de los Colorados, 3000 f. »Rare». (L. S.)

Agriornis pollens SCLATER. — 1 ♂ $^{10}/_7$, Ilana near Jaguarcocha, 8000 f.

Agriornis solitaria SCLATER. — 2 ♂♂ $^{12}/_7$, 1 ♀ $^{10}/_6$, Quito, 9500 f.; 1 ♂, 1 ♀ $^{21}/_2$, Zambiza, 8000 f.

»Found at Quito and on Pichincha up to an altitude of 12000 f.; seldom two birds are seen together.» Local name: »Solitario» (L. S.). In addition to the above mentioned normal specimens, there are also two albino specimens 1 ♂ $^7/_3$ from a locality above La Carolina and another from Tumbaco, $^{10}/_2$, 8000 f.

Myiotheretes erythropygius SCLATER. — 1 ♀ $^{10}/_2$, 2 ♂♂ $^{24}/_3$, 1 ♀ $^4/_9$, 1 ♂ $^7/_{12}$, Pichincha below crater 13500—14000 f.; 1 ♂ $^7/_7$, Guamani, above Tablon, road to Papallacta, 13600 f. Native name: »Solitario». »Generally found on the stones, rocks and among the small bushes. Does not leave the high altitudes.» »Rarely found in pairs.» (L. S.)

Myiotheretes striaticollis SCLATER. — 1 ♂ $^3/_2$, 1 ♂ $^{10}/_3$, 1 ♂ $^1/_9$, 2 ♂♂ $^3/_9$, Cumbaya, 6 miles east of Quito, 8000 f.; 1 ♂ $^{10}/_4$, above Chaupicruz, 4 miles north of Quito, 9600 f.; 1 ♀ $^{10}/_7$, outside Quito, 9400 f.; 1 ♀ $^3/_2$, Pichincha above Quito, 10000 f. »Feeds on caterpillars, moths and other insects. Mostly single specimens, seldom in pairs.» Local name: »Solitario café». (L. S.)

Ochthodiaeta fumigata BOISS. — 2 ♂♂ $^5/_7$, 1 ♂ $^{24}/_3$, 1 ♀ $^{11}/_3$, Verdecocha road to Mindo, 10000 f.

Ochthoeca oenanthoides brunneifrons BERL. & STOLZ. — 1 ♂ $^{10}/_6$, 1 ♂ 1 ♀ $^{17}/_2$, below Lloa, 9500 f.; 1 ♂, 1 ♀ $^4/_9$, below Nono, 9000 f.; 1 ♂ $^6/_2$, Chinquil, 9000 f.

Ochthoeca frontalis LAFR. — 1 ♂, 1 ♀ $^{24}/_8$, below Lloa, 9500 f.; 2 ♂♂, 1 ♀, $^8/_{10}$, Nanegal, 8500 f.; 1 ♂, 1 ♀ $^8/_4$, below Nono, 9000 f.

Ochthoeca lessoni SCLATER. — 4 ♂♂ & 2 ♀♀, Aug., Chinquil, 9000 f.; 2 ♂♂, 1 ♀ $^8/_7$, 1 ♀ $^{12}/_3$, below Nono, 9000 f.; 3 specimens $^8/_2$ from the road to Nanegal, 8500 f.

Ochthoeca cinnamomeiventris LAFR. — 2 ♂♂, 1 ♀ $^7/_4$, Baeza road to Napo, 6000 f. »Rare» (L. S.).

Ochthoeca rufomarginata LAWR. — 2 ♂♂, 1 ♀ $^{10}/_3$, 2 ♂♂, 2 ♀♀ end of Aug. and beginning of Sept., near Calacali, 10000 f.; 2 ♂♂, 1 ♀ $^7/_2$, Lloa, 10500 f.; 1 ♂ $^{14}/_2$, 1 ♀ $^3/_9$, Chinquil, 9000 f.

Ochthoeca gratiosa SCLATER. — 1 ♂ $^7/_2$, 1 ♂, 1 ♀ $^8/_5$, 2 ♂♂, 1 ♀ $^{24}/_8$, below Nono, 9000 f.; 2 ♂♂, 1 ♀ $^8/_2$, Chinquil 9000 f.

Mecocerculus stictopterus SCLATER. — 2 ♂♂ $^{20}/_5$, 2 ♂♂, 1 ♀ $^{24}/_8$, 1 ♀ $^4/_4$, near Nanegal, 6000 f.; 2 ♂♂, 1 ♀ $^6/_7$, 1 ♀ $^{10}/_9$, near Mindo, 6000 f. »Also found near Gualea» (L. S.).

Mecocerculus poecilocercus SCL. & SALV. — 3 ♂♂, 1 ♀ $^6/_7$, Niebli, 7000 f.; 1 ♂, 1 ♀ $^4/_4$, Tumbaco, 7500 f.; 1 ♂, 1 ♀ $^{10}/_5$, road to Mindo, 7500 f.

Muscisaxicola alpina JARD. — 1 ♂ $^{20}/_1$, 2 ♂♂, 1 ♀ $^{18}/_2$, 1 ♀ $^{10}/_4$, 2 ♂♂, 1 ♀ $^1/_{11}$, 1 ♂ $^{10}/_{10}$, Pichincha 13000—14500 f.

Muscisaxicola maculirostris rufescens BERL. & STOLZ. — 1 ♀ $^6/_4$, Quito; 1 ♂ $^1/_5$, Chaupicruz, north of Quito, 9500 f.; 1 ♂ Pomasqui, 8500 f. »Found outside Quito, sometimes on the roof of houses, where it feeds on flies etc. Sometimes it flies like a lark and soars with outspread wings. Seldom two specimens are seen together.» (L. S)

Todirostrum sclateri BERL. & STOLZ. — 2 ♂♂, 1 ♀, June and July.

Caenotriccus ruficeps LAFR. — 3 ♂♂, Dec. & Jan., road to Gualea, 6000 f.

Lophotriccus squamaecrista LAFR. — 2 ♂♂, 1 ♀ $^{10}/_5$, below 4500 f. The size of these specimens is rather variable. The length of wing of one of the males is 51 mm., but that of the other male and of the female is only 45 mm. They are thus evidently smaller than the typical form of Colombia and

approach the small race (*minor* CHERRY) of Costa Rica. The material does not, however, allow further discussion of the fact.

Pogonotriccus ophthalmicus TACZ. — 2 ♂♂ $^{19}/_4$, Niebli 7000 f.

Anaeretes parulus aequatorialis BERL. & TACZ. — 1 ♂, $^{20}/_1$, 1 ♂ $^{20}/_6$, 1 ♂ $^3/_10$, 1 ♀ $^6/_12$, Quito, in garden; 1 ♂ $^{12}/_8$, 2 ♀♀ $^{10}/_7$, Cumbaya, 8000—8300 f.; 1 ♂ $^7/_4$, Tumbaco, 8000 f.; 2 ♂♂ $^{10}/_4$, Lloa, 10000 f.; 1 ♂ $^5/_11$, 1 ♀ $^4/_4$, Calacali, 10000 f. »Lives in bushes flitting from one to the other, never remaining long in any place.» (L. S.)

Anaeretes agilis SCLATER. — 1 ♂, 1 ♀ $^7/_2$, 1 ♂, 1 ♀ $^{24}/_8$, below Nono, 9000 f. This species does not appear to have been recorded from Ecuador before this.

Mionectes striaticollis hederaceus BANGS. — 2 ♂♂, 1 ♀ $^{20}/_5$; 1 ♂, 1 ♀ $^4/_7$, Gualea, 5000 f.

This series is of great interest because the colour of the pileum displays such different shades in the different specimens. In one of the males it is so dark, that one may feel almost tempted to refer the specimen to the more southern, dark-headed »*striaticollis*»-group, but there are all intergradations in the others to the same colour as the back. From this the conclusion lies near at hand, that all the different races, that have been described under the heads of »*striaticollis*» and »*olivaceus*», only are subspecies of one and the same species. The first of these appears to be the oldest specific name, which originally was given to the darkheaded race of Bolivia. The next with regard to the dark shades of the head is the Peruvian *poliocephalus*. In which connection this one stands to *hedereceus* BANGS, appears rather doubtful, because the just quoted author has not explained, by which characteristics his new form is to be distinguished from *poliocephalus*. It appears rather probable that a comparison of sufficient material will prove, that *poliocephalus* and *hederaceus* merge into each other. Thus a continuous series might be formed from the most dark-headed southern *striaticollis* to the most light-headed *olivaceus* in the north.

The present specimens display a certain variation also in another respect, viz. with regard to the length of the culmen, which measures in three males from the same locality resp. 12,5, 13 and 15 mm.

Tyranniscus cinereiceps SCLATBR. — 1 ♀ $^{19}/_4$, Niebli, 7000 f.

Tyranniscus chrysops SCLATER. — 2 ♂♂, 1 ♀ $^{4}/_4$, 2 ♂♂, 1 ♀ $^{20}/_9$, road to Nanegal, 6000 f.; 1 ♂, 1 ♀ $^{7}/_7$, road to Gualea, 6000 f.

Elaeena pallatangae SCLATER. — 2 ♂♂, 1 ♀ $^{10}/_3$, 1 ♂, 1 ♀ $^{18}/_7$, below Nono, 9000—9500 f.; 2 ♂♂, 1 ♀ $^{3}/_4$, Chinquil, southwestern slope of Pichincha, 9000 f.; 1 ♂, 1 ♀ $^{14}/_{12}$, road to Nanegal, 8500 f. »It is also to be found below Calacali etc. and goes down to an altitude of about 8000 f. I found once some in the garden feeding on the wild pepper berries.» (L. S.)

Myiobius barbatus atricaudus LAWR. — 1 ♂, 1 ♀ $^{23}/_7$, below Nanegal, 4000 f.; 1 ♂ $^{7}/_7$, below Gualea 4500 f.

Myiobius cinnamomeus D'ORB. & LAFR. — 4 ♂♂, 2 ♀♀ Sept.—Nov., Baeza, road to Napo, 6000 f.

Myiobius erythrurus fulvicularis SALV. & GODM. — 1 ♀ $^{20}/_{12}$, road to Gualea, 6000 f.

Myiobius stellatus CAB. — 2 ♂♂ $^{10}/_9$, road to Gualea 5000 f.; 2 ♂♂, 1 ♀ $^{6}/_{12}$, road to Nanegal, 5500 f.; 1 ♀ $^{20}/_5$, Mindo, 5500 f.

Myiobius flavicans SCLATER. — 1 ♂, 2 ♀♀ $^{6}/_7$, Niebli, 7000 f.

Myiobius pulcher SCLATER. — 1 ♀ $^{4}/_3$, 2 ♂♂, 1 ♀, Oct., $^{20}/_5$, road to Nanegal, 8000 f.

Pyrocephalus rubineus BODD. — 4 ♂♂, 1 ♀ March—Oct., Cumbaya, 8000 f.; 1 ♀ $^{20}/_7$, Zambiza, 7500 f. »This bird has a wide range from Guayaquil, Esmeraldas, Manavi and all the hot valleys along Guallabamba river, Ilana etc. It is never found in the forests. I have seen the bird twice outside Quito.» (L. S.)

Myiarchus nigriceps SCLATER. — 1 ♂ $^{20}/_5$, 1 ♀ $^{20}/_2$, Mindo, 5500 f.; 1 ♂ $^{7}/_7$, Gualea 5000 f.

Tyrannus tyrannus LIN. — 1 ♀ $^{14}/_{10}$, Mindo, 5500 f. »Rare, found along the river.» (L. S.)

Milvulus tyrannus LIN. — 1 ♂ $^{19}/_9$, between Guapulo and Cumbaya, 8000 f. »Rare, but found below Mindo at 3—4000 f. altitude. This specimen must have followed the course of Guallabamba river and so up the lower part of Machangara river.» (L. S.)

Masius coronulatus BP. — 5 ♂♂, 2 ♀♀, June—Sept., Gualea, 4500 f.; 1 ♂, 1 ♀ $\frac{3}{9}$, Nanegal, 4500 f.

Machaeropterus deliciosus SCLATER. — 7 ♂♂, 3 ♀♀, May—Oct., Mindo, 5000 f.; 1 ♂ $\frac{3}{5}$, Gualea, 5000 f.

Tityra nigriceps gualeae n. subsp. — 1 ♂ $\frac{13}{9}$, near Gualea, 4500 f. This bird agrees essentially with *T. nigriceps* ALLEN, but differs from the same in having the hind part of the crown (beginning on a level with the posterior orbit) and the nape heavily streaked with pure white. The tail is black, the central feathers greyish white basally for about 35 mm., but the lateral ones only for about 20 mm., and also bordered with black externally. The quills are also tipped with white. The back and innermost secondaries greyish white, lower parts almost pure white. Length of wing 122 mm.

We consider this race as the representative of *T. nigriceps* on the western side of the Andes.

Lathria fuscocinerea LAFR. — 1 ♂ & 2 ♀♀ $\frac{9}{3}$, 1 ♂ $\frac{6}{4}$, 1 ♂ $\frac{27}{4}$, Baeza road to Napo, 6000 f.

Rupicola peruviana LATH. — 2 ♂♂ $\frac{16}{3}$, 1 ♀ $\frac{10}{1}$, Baeza, road to Napo, 5500 f.

Rupicola peruviana sanguinolenta GOULD. — 2 ♂♂ $\frac{10}{8}$, 1 ♀ $\frac{10}{7}$, 1 ♀ $\frac{20}{7}$, 1 ♂ juv. in transition-plumage, near Nanegal, 5500 f.; 1 ♂ $\frac{20}{7}$, 2 ♂♂ $\frac{15}{8}$, 1 ♂ juv. in transition-plumage, $\frac{1}{3}$ 1 ♀ $\frac{15}{7}$, Milligalli, road to Santo Domingo de los Colorados, 6000 f.

The young males recorded above as having transitory plumage show much of the juvenile plumage, which is similar to that of the females, but have acquired the adult feathers on the head including the crest and mostly on the lower parts, but on the chest many juvenile feathers remain. On the back new and old feathers are mixed, rather irregularly. The first primary has the same shape as in the female, and the colour of the wings is also similar with that of the female, except that in one of the specimens the innermost secondaries is somewhat shaded with grey.

Ampelion arcuatus LAFR. — ♂ & ♀ $\frac{25}{3}$, below Calacali, 8500 f.; ♂ & ♀ $\frac{7}{11}$ south-western side of Mojanda, 8000 f.; 1 ♂ $\frac{10}{2}$, 1 ♂ $\frac{7}{7}$, road to Gualea, 8000 f.

Ampelion cinctus TSCHUDI. — ♂ & ♀ $\frac{1}{4}$, ♂ & ♀ $\frac{18}{9}$, road to Nanegal, 6000 f.

Euchlornis (Pipreola) melanolaema SCL. — 2 ♂♂ & 1 ♀ $\frac{20}{7}$, ♂ & ♀ $\frac{3}{12}$, road to Nanegal, 7000 f.; 1 ♂ $\frac{7}{7}$, near Mindo, 7000 f.; 1 ♂ $\frac{3}{11}$, road to Gualea, 7500 f.

Euchlornis (Pipreola) jucunda SCL. — ♂ & ♀ $\frac{7}{3}$, 1 ♂ $\frac{7}{7}$, road ot Gualea, 5500 f.; ♂ & ♀ $\frac{3}{10}$, 1 ♂ $\frac{6}{10}$, Mindo 5500 f.; 1 ♂ without locality.

Heliochera rubricristata D'ORB. & LAFR. — 2 ♂♂ $\frac{20}{11}$, 2 ♂♂ & 1 ♀ $\frac{9}{2}$, 1 ♂ $\frac{10}{4}$, 1 ♂ $\frac{4}{12}$, 1 ♂ juv. $\frac{12}{7}$, below Lloa 9—10000 f. SCLATER states, that the female of this species shall be without the red crest, but in accordance with TACZANOWSKI we have found, that the female is similar to the male in this respect, although the crest is not so long and large. There is also a greenish white tint on the abdomen produced by the light stripes to the feathers. In the young bird this greenish white (streaked with dark) is still more extended over a greater part of the abdomen, and there is also a certain olive tint over the grey of the breast and fore-neck as well. There is no red crest, but the feathers of the hind part of the crown and the nape have a certain shade of rufous brown, especially on the margins. The white stripes of the rump extend further forward than in the adult, and they are also somewhat yellowish. The scapulars and innermost secondaries are spotted with white near their tips.

Cephalopterus penduliger SCL. — ♂ & ♀ $\frac{5}{11}$, Rio Blanco, below Mindo, 3500 f.; ♂ & ♀ $\frac{24}{10}$, Napa road to Santo Domingo de los Colorados, about 3800 f.

These are very fine specimens. The throat-wattle of the latter male measures 350 mm.

Hirundo erythrogaster BODD. — 1 ♂ $\frac{9}{10}$, Mount Corazon, 14500 f. »Found among the rocks just below the snow-limit; also found at the same altitude on Mount Antisana.»

Cinnicerthia unirufa LAFR. — 1 ♂ $\frac{5}{12}$, 1 ♂ $\frac{21}{1}$, Pichincha, 10—11000 f.

Cinnicerthia unibrunnea LAFR. — 2 ♂♂, 1 ♀ $\frac{11}{3}$, 2 ♂♂, 1 ♀ $\frac{5}{7}$, 1 ♀ $\frac{5}{12}$, Pichincha 10—11000 f.

Thryophilus nigricapillus SCLATER. — 1 ♂ $\frac{10}{4}$, 1 ♂, 1 ♀ $\frac{20}{10}$, Nanegal, 5000 f.

Thryothorus euophrys SCLATER. — 1 ♂ $^{15}/_2$, 1 ♂ $^{18}/_7$, 2 ♂♂ $^{14}/_9$, 1 ♂ $^{10}/_{10}$, road to Nanegal, 8000 f.; 2 ♀♀ $^{18}/_7$, same locality. These specimens sexed as females have no black markings at all, nor any white on the throat. They resemble thus the female mentioned by MENEGAUX 1911. Dr. HARTERT, whose opinion we have been favoured with, considers these as young.

Cistothorus aequatorialis LAWR. — 2 ♂♂, 1 ♀ $^{24}/_1$, Pichincha 12—13000 f.

Troglodytes albicans BERL. & TACZ. — 1 ♂, 2 ♀♀, $^{22}/_{12}$, Ilana, 8000 f.; 1 ♂ $^{23}/_{11}$, Zambiza, 8000 f.

Henicorhina hilaris BERL. & TACZ. — 1 ♀ $^8/_2$, 1 ♂ $^{15}/_3$, 2 ♂♂ $^8/_5$, 1 ♀ $^3/_{11}$, Mindo, 5500 f.

Henicorhina inornata HELLM. — 1 ♂ $^7/_2$, Mindo, 5500 f.

Myiadestes ralloides plumbeiceps HELLM. — 2 ♂♂ $^7/_6$, 1 ♀ $^{20}/_5$ near Mindo, 5500 f.

Merula (Planesticus) obsoleta parambana HARTERT. — 1 ♂, 1 ♀ juv. $^{20}/_9$, 1 ♂ $^{16}/_{10}$, 1 ♂ $^{18}/_{10}$, Mindo, 5500 f.

Semimerula gigas FRASER. — 1 ♂, 1 ♀ $^4/_7$, near Tumbaco, 7600 f.; 1 ♂ $^{10}/_4$, Chaupicruz, 9400 f.; 1 ♀ $^{20}/_1$, outside Quito, 9400 f.; 1 ♂ $^{20}/_3$, near Nono, 10000 f.; 1 ♂ $^{17}/_1$, Pichincha above Quito, 11000 f.; 1 ♀ $^{12}/_2$, Tablon road to Papallacta, 13000 f.

»Found all over the interior: Tumbaco, Cumbaya, Pomasqui, etc. plentiful on the Paramos in the bushes. It feeds on the wild cherries and other fruits. It has a very agreeable song. Sometimes it nests in gardens.» (L. S.)

Hylocichla swainsoni CAB. — 1 ♂ $^1/_3$, 1 ♂ $^{22}/_{11}$, 1 ♀ $^4/_{12}$, Quito.

»This species appears in the gardens about every other year. It is found more often below Papallacta on the road to Napo.» (L. S.)

Vireo chivi vividior HELLM. & SEILERN. — 1 ♂, 1 ♀ $^{22}/_6$, Gualea, 5000 f.

Vireo josephae SCLATER. — 1 ♂ $^7/_7$, Gualea, 5000 f.

Parula pitiayumi pacifica BERL. — 2 ♂♂, 1 ♀ $^6/_7$, Mindo, 5500 f.; 2 ♂♂, 1 ♀ $^{23}/_4$, Gualea, 5500 f.

Dendroeca aestiva GML. — 1 ♂ $^8/_2$, 1 ♀ $^{20}/_4$, Quito (in gar-

den); 1 ♂ $^{10}/_3$, Tumbaco, 7500 f.; 1 ♀ $^{20}/_4$, Chinquil, below Lloa, 9000 f. »Very rare» (L. S.).

Dendroeca blackburniae GML. — 1 ♂ $^{10}/_5$, 1 ♀ $^4/_3$, Quito (in garden); 1 ♂ $^{10}/_2$, 1 ♀ $^6/_4$, Tumbaco, 7—8000 f.; 1 ♂, 1 ♀ $^4/_4$, road to Nanegal, 8000 f. »Rather rare» (L. S.).

Myioborus verticalis LAFR. & D'ORB. — 1 ♂, 2 ♀♀ $^{11}/_4$, near Niebli, 7500 f., 1 ♂, 1 ♀ $^7/_3$, Tumbaco, 7500 f.; 1 ♂ $^3/_6$, 1 ♂ $^{20}/_{11}$, below Nono, 9000 f.; 1 ♀ $^4/_7$, Chinquil, 9000 f. »Also found at Nanegal, 6000 f.» (L. S.)

Myioborus bairdi SALVIN. — 2 ♂♂, 1 ♀ $^6/_4$, 2 ♂♂, 1 ♀ $^{24}/_8$, 1 ♂ $^5/_11$, Chinquil, 9000 f.; 2 ♂♂, 2 ♀♀ $^{4-7}/_3$, 1 ♀ $^4/_9$, below Nono, 9000 f.

Myiothlypis nigricristatus LAFR. — 2 ♂♂, 1 ♀ $^7/_4$, 2 ♂♂, 1 ♀ $^{10-18}/_7$, road to Nanegal, 8500—9000 f.; 2 ♂♂ $^7/_11$, 2 ♀♀ $^{10}/_{11}$, below Lloa, 9000 f. »Also found below Nono, not very common.» (L. S.)

Basileuterus tristriatus TSCHUDI. — 1 ♂ $^{12}/_4$, 1 ♀ $^{13}/_4$, Mindo, 5—6000 f.; 1 ♂ $^{20}/_{10}$, 1 ♀ $^7/_7$, road to Nanegal, 6000 f.

Basileuterus coronatus TSCHUDI.* — 1 ♂, 1 ♀ $^9/_2$, 1 ♂ $^{15}/_7$, 1 ♀ $^{18}/_7$, 2 sp. $^4/_11$, road to Nanegal, 8000 f.

»Found among the thin bamboo-plants. It has a pretty song, and is called by the people: 'schoolmaster' — 'maestro de escuela'.» (L. S.)

Anthus bogotensis SCLATER. — 2 ♂♂, 1 ♀ $^{20}/_1$, 1 ♀ $^{17}/_2$, 1 ♂ $^{20}/_3$, 1 ♂ $^{17}/_{12}$, Pichincha 13—14000 f. »Lives on the ground at an altitude up to 14000 feet, runs like a partridge and hides in the Paramo grass.» (L. S.)

Catamblyrhynchus diadema LAFR. — 1 ♂ $^{10}/_3$, 1 ♂ $^{20}/_3$, 1 ♂ $^4/_7$, 1 ♀ $^{20}/_9$, near Mindo, 7000 f. »Rare». (L. S.)

Pheucticus chrysogaster LESS. — 1 ♂ $^{10}/_2$, 1 ♂ $^{10}/_4$, 1 ♂ $^4/_10$, 1 ♂, 1 ♀ $^{20}/_6$, 1 ♀ $^7/_10$, Quito; 1 ♂ $^7/_4$, 1 ♀ $^7/_4$, Tumbaco, 7500 f. »Found nearly all over the interior from 7500 to 11000 f.; is most common about Quito. It has a very pretty song and is often kept in cages by the natives.» (L. S.)

Pheucticus crissalis SCLATER & SALVIN. — 1 ♂, 1 ♀ $^{24}/_{10}$, Ambati, 8500 f. Consul SÖDERSTRÖM has not observed this bird except at the locality mentioned.

Zamelodia ludoviciana LIN. — 1 ♂ $^{10}/_{10}$ 1910; 1 ♂ $^{24}/_{10}$ 1910, below Calacali, road to Nanegal, 9000 f. As far as known to Consul SÖDERSTRÖM only these two specimens have been caught during the last forty years.

Catamenia analoides LAFR. — 1 ♂ $^4/_{10}$, 1 ♀ $^6/_{10}$, 1 ♂ $^{15}/_{10}$, 1 ♂ juv. (in streaked transitory plumage) $^{20}/_{10}$, Quito in garden; 2 ♂♂ $^{10}/_9$, 2 ♂♂, 1 ♀ $^6/_{11}$, Tumbaco 7800 f.; 1 ♂ $^{20}/_{10}$, Cumbaya, 8000 f. »Found at localities mentioned and at Calacali from July to November plentifully. It feeds on the dry grass seeds. Generally in pairs, but more often one or two males together.» (L. S.)

Saltator maximus T. L. S. MÜLLER. — 2 ♂♂, 1 ♀ $^{15}/_7$, road to Nanegal, 7—8000 f.

Saltator atripennis SCLATER. — 3 ♂♂, 1 ♀ $^{25}/_6$, road to Gualea, 7000 f.

Saltator striatipectus striatipectus LAFR. (fide HELLMAYR). — 1 ♀ $^{27}/_6$, road to Gualea, 7000 f.

Spinus capitalis CAB. — 2 ♂♂, 1 ♀ $^{20}/_5$, Quito, in garden; 1 ♂, 1 ♀ $^5/_5$, 1 ♀ $^3/_6$, Tumbaco, 7500 f.; 1 ♂, $^{10}/_7$, 1 ♂ $^5/_8$, Chaucieruz, 9300 f. »Also found at Cumbaya, sings very prettily, flies in flocks of from 3 to 20 or more, feeds on seeds.» (L. S.)

Sycalis arvensis luteiventris MEYER. — 1 ♂ $^{10}/_7$, 1 ♂, 1 ♀ $^{20}/_{11}$, Ichimbia, above Quito, eastern side, 9600 f. These specimens have only very slight and faint traces of white on the outer tail-feathers.

Brachyospiza capensis peruviana LESS. — 2 ♂♂, 1 ♀ $^3/_2$, 2 ♂♂, 1 ♀ $^3/_9$, Quito; 1 ♂, 1 ♀ $^{16}/_3$, Cumbaya, 8000 f. »Found all over the interior, but does not enter the forests, becomes very tame.» (L. S.) An albino of this species with the wings and tail partly normally coloured and with remains of the chestnut and black colour marks has been collected $^6/_{12}$ at Quito. Consul SÖDERSTRÖM remarks about this, that sometimes whole families of »white sparrows» are found, but the natives always kill them, whenever they see them.

Arremonops conirostris chrysoma SCLATER. — 1 ♂ $^{20}/_1$, 1 ♂ $^{11}/_5$, above Mindo, 6500—7000 f.; 1 ♂ $^4/_4$, 1 ♀ $^{10}/_4$, road to Nanegal, 6000—6500 f.

Phrygilus unicolor D'ORB. & LAFR. — 2 ♂♂, 1 ♀ $^{20}/_1$, 1 ♂,

2 ♀♀ $^{19}/_2$, 1 ♂ $^{7}/_4$, 1 ♂ $^{20}/_6$, 1 ♂, 1 ♀ $^{11}/_7$, Pichincha, 14000—14500 f. outside crater.

Phrygilus alaudinus KITTL. — 1 ♂ $^{20}/_2$, 1 ♂, 1 ♀ $^{7}/_{10}$, 2 ♂♂ $^{20}/_{11}$, Quito, 10000 f.; 1 ♂ $^{6}/_3$, Chaupieruz, N. of Quito, 9800 f.

Phrygilus plebejus ocularis SCLATER. — 1 ♂, 2 ♀♀ $^{12}/_4$, Tumbaco, 8000 f.; 6 ♂♂, 2 ♀♀, no locality.

Arremon aurantiirostris occidentalis HELLM. — 1 ♂, 1 ♀ $^{6}/_4$, 2 ♂♂ $^{6}/_5$, Nanegal, 5—6000 f.

Buarremon brunneinucha LAFR. — 1 ♀ $^{10}/_7$, road to Nanegal, 7000 f.

Buarremon spodionotus SCLATER & SALVIN. — 1 ♂ $^{10}/_5$, 1 ♀ $^{6}/_6$, 1 ♂ $^{14}/_8$, 1 ♂ $^{4}/_9$, 2 ♂♂ $^{20}/_9$, 1 ♂ $^{25}/_9$, 1 ♀ $^{14}/_{12}$, Chinquil below Lloa, 8—9000 f.

Buarremon leucopterus JARD. — 1 ♂ $^{3}/_7$, 1 ♀ $^{5}/_7$, 1 ♂ $^{2}/_9$, road to Nanegal, 8000 f.

Buarremon schistaceus JARD. — 1 ♂, 1 ♀ $^{24}/_8$, 1 ♂ $^{10}/_9$, road to Nanegal, 8000 f. BRABOURNE and CHUBB have recorded this species for Eastern Ecuador, but it evidently belongs to the fauna of the higher altitudes, which may be found on either side of the mountain-chain.

Buarremon assimilis BOISS. — 1 ♂, 1 ♀ $^{3}/_4$, 1 ♂ $^{7}/_{10}$, 1 ♂ $^{25}/_{10}$, 1 ♂ $^{7}/_{12}$, Chinquil below Lloa 8—9000 f.; 1 ♂ $^{4}/_8$, 1 ♂ $^{6}/_8$, 1 ♂ $^{24}/_9$, below Nono, 8—9000 f.

Buarremon pallidinucha papallactæ HELLM. — 2 ♂♂, 1 ♀ $^{5}/_{10}$, below Nono, 8—9000 f. These specimens agree quite closely with HELLMAYR's description of his specimens from Papallacta. It is thus evident that this race inhabits the temperate inter-Andean zone.

Coereba mexicana SCL. (subsp.?). — 6 specimens representing both sexes from Gualea, 5000 f.

Diglossa sittoides D'ORB. & LAFR. — 2 ♂♂ & 1 ♀ $^{20}/_7$, Lloa, 1000 f.; 1 ♂ $^{24}/_8$, Calacali, 10000 f.; 2 ♂♂ $^{20}/_5$, Pomasqui, 8000 f.; 1 ♂ & 1 ♀ $^{10}/_5$, 1 ♂ & 1 ♀ $^{5}/_9$, Tumbaco, 8000 f.; 1 ♀ $^{3}/_9$, Pichincha, 11000 f.; 1 ♀ $^{12}/_4$, road to Nanegal, 6000 f.

The last of these and one of those labeled as females have a colour of the lower side, which is somewhat rufescent and approaches the colour of the males, although the upper parts

are coloured as in normal females. It is possible, that these specimens really are young males in juvenile plumage, although by mistake labeled as females.

Diglossa lafresnayi BOISS. — 1 ♂ $^{11/3}$, 1 ♂ $^{20/4}$, 1 ♀ $^{20/6}$, Lloa, 10000 f.; 1 ♂ $^{17/2}$, ♂ & ♀ $^{12/4}$, 1 ♀ $^{3/5}$, Pichincha, 11000 f.; 1 ♂ $^{6/9}$, Nono 10000 f.; ♂, ♀ $^{7/10}$, Tumbaco, 8000 f.; ♂ $^{4/11}$ at river Machangara, 9200 f.; 1 ♂ $^{8/10}$, Cumbaya, along the river, 7600 f.

Consul SÖDERSTRÖM states, that this species occurs at Lloa, Nono, Calacali, Tumbaco, Cumbaya etc., always in the bushes particularly along the rivers and streams.

Diglossa aterrima LAFR. — ♂ & ♀ $^{7/5}$, Lloa, 10000 f.; 2 ♂♂ $^{4/9}$, Calacali, same altitude; ♂ & ♀ $^{20/4}$, 1 ♂ $^{6/7}$, 1 ♀ $^{9/9}$, Tumbaco, 8000 f.; ♂ & ♀ $^{20/6}$, at river Machangara, 9200 f.; 1 ♂ $^{24/8}$, 1 ♀ $^{5/9}$, 1 ♂ $^{12/10}$, Quito in garden, 9600 f.

»Found at Quito, Tumbaco, Cumbaya, Lloa, Nono, Calacali, etc., almost always single, feeds on the Fuchsia flowers, fights always with the Hummingbirds.» (L. S.)

Diglossa albilateralis LAFR. — 1 ♂ $^{12/4}$, 1 ♂ $^{11/8}$, 1 ♂ juv. $^{15/9}$, road to Nanegal, 6000 f.; 1 ♂ $^{6/9}$, near Mindo, 5500 f. This species is said to be rather rare. It is probable, that a young bird collected on the road to Nanegal belongs to this species. It is stated to be a male. Above it is blackish with an olive tint, breast and belly are dull buff or ochraceous. Under wing-coverts and flanks white, but there is no white on the bend of the wing.

Diglossa personata FRASER. — 2 ♂♂ & 1 ♀ $^{24/8}$, Lloa, 10000 f.; 1 ♂ $^{6/3}$, 1 ♂ $^{20/9}$, 1 ♂ $^{22/9}$, Nono, 10000 f.; ♂ & ♀ $^{20/3}$, Chinquil, 9000 f.; 2 ♂♂, 1 ♀ $^{11/5}$, below Calacali, 9000 f. Concerning this species Consul SÖDERSTRÖM communicates, that it is found at the localities mentioned and also at Pichincha at an altitude from 9000 to 12000 feet.

Diglossa indigotica SCL. — 1 ♂ $^{9/4}$, 1 ♂ $^{19/10}$, 1 ♂ juv. $^{16/1}$, road to Nanegal, 7000 f. The young bird is black, the new feathers blue as in the adult, but with the feathers of the juvenile plumage only edged with dull bluish green. This species is stated to be rare by Consul SÖDERSTRÖM.

Conirostrum sitticolor LAFR. — ♂ & ♀ $^{24/3}$, near Chinquil,

8000 f.; 2 ♂♂ $2\frac{1}{7}$, below Nono, 8000 f.; ♂ & ♀ $\frac{3}{2}$, Silanti, western side of Corazon.

Conirostrum fraseri SCL. — 2 ♂♂ & ♀ $\frac{6}{10}$, 1 ♂ $\frac{5}{5}$, Tumbaco, 7500 f.; ♂ & ♀ $\frac{10}{3}$, 1 ♀ $\frac{12}{3}$, Chinquil, southwestern side of Pichincha, 9000 f.; 1 ♀ $\frac{22}{7}$, 1 ♂ $\frac{12}{8}$, Cumbaya, 8000 f.; 1 ♀ $\frac{6}{9}$, near Nono, 9000 f. Consul SÖDERSTRÖM states that this species is found on the mountains mentioned and others up to a height of 10000 feet, and that it always lives in the bushes.

Chlorophanes spiza exsul BERL. & TACZ. — 1 ♂, 1 ♀ $\frac{7}{4}$, below Nanegal, 4000 f. This specimen proves when compared with specimens of *C. s. guatemalensis* from Costa Rica and Guatemala to be decidedly paler green. The length of the wing is 71 mm., while a specimen from Costa Rica has this measurement only 38 mm. Specimens from Guatemala are larger with the length of wing 74 to 77 mm. As the authors of the subspecies has pointed out, the bill of the race from Ecuador is much smaller than the same organ of the Guatemala race, and this together with the pale green colour makes it easily recognisable, although it is not smaller in every respect than the birds from Central America.

In a similar way a female collected at the same place as the above male and only a day later is not particularly small, with a length of wing amounting to 68 mm., but its bill is smaller than that of birds from Central America and its general colour is perhaps a little more yellowish. This is distinctly the case with the throat, which is very decidedly yellow.

Procnias viridis occidentalis SCL. — 1 ♂ & 1 ♂ juv. $\frac{8}{5}$, Gualea, 5000 f.; ♂ & ♀ $\frac{4}{7}$, Nanegal, 4000 f.; ♂ & ♀ $\frac{11}{4}$, near Mindo. The length of the wing of the four males varies between 84 and 90 mm. and is thus rather variable. The young male has a rather strange mixture of male- and female-looking juvenile plumage.

Euphonia cyanocephala pelzelni BERL. — 1 ♀ $\frac{20}{7}$, 2 ♂♂ $\frac{7}{9}$, 2 ♂♂, 1 ♀ $\frac{3}{11}$, Tumbaco, 7500 f.; 2 ♂♂, 1 ♀ $\frac{10}{7}$, 1 ♂ $\frac{20}{7}$, 1 ♀ $\frac{8}{9}$, 1 ♂ $\frac{4}{11}$, Cumbaya, 8000 f. »Found also at Guapulo etc.; feeds on the Mistletoe berries; flies in flocks of from 3 to 8 from one tree to the other.» (L. S.)

Euphonia xanthogaster quitensis NELSON. — 2 ♂♂, 1 ♀

$^{10}/_4$, 1 ♂, 1 ♀, $^5/_{11}$, road to Gualea, 8000 f.; 1 ♂ $^{20}/_3$, 2 ♂♂, 1 ♀ $^6/_9$, road to Nanegal, 7500 f.

Euphonia saturata CAB. — 1 ♂ $^{21}/_3$, road to Nanegal, 7500 f.

Chlorochrysa phænicotis BP. — 1 ♂ $^{20}/_5$, 1 ♀ juv. $^{22}/_5$, 1 ♂, 1 ♀ $^7/_{10}$, Nanegal, 4—5000 f.

Iridophanes pulcherrima (aureinucha RIDGWAY, or) *gualeae* n. subsp. 1 ♂ $^{10}/_5$, 1 ♂ $^{12}/_5$, 1 ♂ $^{10}/_9$, 1 ♂ $^{11}/_9$, Gualea, 4—5000 f. The white mark on the outer tail-feather together with the rich orange golden cervical collar unites these specimens with the *aureinucha*-series. *I. aureinucha* appears hitherto to have been known from eastern Ecuador. The question is then, whether these western birds really are identical with the true *aureinucha*. Without material for comparison it is difficult to decide upon this as the available descriptions are rather short. There appears, however, to be certain discrepancies. RIDGWAY says f. i. about his *aureinucha*: »throat dull grayish, not abruptly contrasted with the color of the jugulum», while *pulcherrima* shall have the throat »deep black, abruptly contrasted» . . . Now in our specimens from Gualea the throat is not black, but grey, but on the other hand it certainly is very sharply contrasted with the pale buff and opalescent jugulum. As this characteristic is quite as sharply developed in all four males from Gualea it seems apt to distinguish them as representatives of a local race. It may be added, that the margins of the primaries in two specimens are green and in the remaining two somewhat greenish blue. The female differs from the description by TACZANOVSKI & BERLEPSCH (Proc. Zool. Soc. 1885, p. 76) in having the wing-coverts and the margins of the quills green instead of »bleu verdâtre». This green of the wing-coverts approaches to some degree »Rinnemans green» according to RIDGEWAY'S terminology and differs widely from the more olive shades of the back.

Procnopis vassori BOISS. — 1 ♀ $^{20}/_6$, below Mindo, 6—8000 f.; 1 ♀ $^{10}/_4$, 1 ♂ $^{10}/_3$, 1 ♂ $^7/_{10}$, below Nono, from 6—8000 f. in April, 8—9000 f. Aug. & Oct.

Calospiza rufigula BP. — 1 ♂ $^3/_5$, 1 ♀ $^5/_5$, 1 ♀ $^8/_7$, 1 ♂ $^{10}/_7$, Gualea 5000 f.

Calospiza aurulenta goodsoni HART. — 2 ♂♂, 1 ♀ $^6/_3$, 1 ♂, 1 ♀ $^4/_4$, 1 ♂ $^{20}/_5$, 1 ♂ $^{24}/_5$, 1 ♀ $^{27}/_5$, road to Nanegal, 6000 f.

All these specimens are decidedly lighter (not brownish-orange) than Colombia specimens, but otherwise similar.

Calospiza vitirolina CAB. 1 ♂ $^{20/2}$, 1 ♂, 1 ♀ $^{8/3}$, 1 ♂, 1 ♀ $^{10/3}$, 1 ♂ $^{10/7}$, ♂, 1 ♀ $^{12/7}$, road to Nanegal, 6000 f.

Calospiza gyroloides bangsi HELLMAYR. — 1 ♂ $^{3/5}$, Gualea, 5000 f.; 1 ♂ $^{10/6}$, 1 ♀ $^{12/6}$, 1 ♂ $^{20/11}$, 1 ♂ juv. $^{22/11}$, below Mindo, 4500 f.

The golden yellow patch on the lesser wing-coverts is well developed in all these specimens, but the yellowish border to the posterior edge of the rufous cap is better developed in old than in young birds.

Calospiza nigriviridis LAFR. — 1 ♂ $^{7/4}$, 1 ♂, 1 ♀ $^{10/8}$, Nanegal 4—5000 f.; 1 ♀ $^{4/4}$, 2 ♂♂ $^{6/4}$, no locality.

Calospiza cyanopgia BERL. & TACZ. — 1 ♂, 1 ♀ $^{2/5}$, 1 ♂, 1 ♀ $^{3/6}$, 1 ♂, 1 ♀ $^{20/7}$, Gualea, 5000 f.

Calospiza labradorides BOISS. — 1 ♀ $^{10/7}$, Gualea, 5000 f.; 1 ♂ $^{6/4}$, 1 ♂, 1 ♀ $^{12/7}$, Mindo 5500—6000 f.

Calospiza parzudakii LAFR. — 2 ♂♂, 1 ♀ $^{12/3}$, Baeza, 6000 f.

Calospiza parzudakii lunigera SCLATER. — 1 ♀ $^{2/5}$, near Gualea; 1 ♂, 1 ♀ $^{3/5}$, 2 ♀♀ $^{11/6}$, 1 ♂ $^{22/7}$, Nanegal, 5500 f.

This birds must apparently be considered as the substitute of the former on the western side of the Andes, and as usually is the case, the one of the eastern side is more brilliantly coloured.

Calospiza venusta SCLATER. — 1 ♂ $^{8/5}$, 1 ♂ $^{20/5}$, 1 ♂, 1 ♀ $^{9/10}$, Gualea, 4000 f.

Iridornis dubusia ignicapillus CHAPM. — 1 ♂, 1 ♀ $^{20/5}$, 1 ♂, 1 ♂ juv. $^{20/7}$, below Nono 9000 f.

Poecilothraupis atricrissa TACZ. & BERL. — 1 ♂ $^{3/2}$, 1 ♂ $^{20/4}$, 1 ♂, 1 ♀ $^{10/5}$, 1 ♂ $^{20/5}$, 1 ♂ $^{12/6}$, 1 ♀ $^{12/8}$, Lloa, 11—12000 f.; 1 ♀ $^{14/7}$, above Nono, 11000 f. »Found the whole year but mostly in May; feeds on berries in the bushes, seldom frequenting the high trees.» (L. S.)

Poecilothraupis palpebrosa coerulescens BERL. — 1 ♂, 1 ♀ $^{10/11}$, 1 ♂ $^{14/11}$, 1 ♂ $^{20/11}$, 1 ♀ $^{24/11}$, below Papallacta, 9—10000 f.

Buthraupis cucullata JARD. — 2 ♀♀, 1 ♀ $^{24/8}$, 2 ♂♂, 1 ♀ $^{7/10}$, below Lloa, 9000 f. »Common in high forest.» (L. S.)

Buthraupis chloronota SCLATER. — 1 ♂, 1 ♀ $\frac{1}{5}$, 1 ♂, 1 ♀ $\frac{10}{11}$, below Lloa, 8—9000 f.

Compsocoma victorini LAFR. — 1 ♀ $\frac{3}{2}$, Mindo, 6000 f. The olivegreen back of this specimen has induced us to name it as above. We are, however, not convinced whether it is a young bird of the next.

Compsocoma sumptuosa cyanoptera CAB. — 1 ♂ $\frac{3}{2}$, road to Nanegal, 6000 f.; 1 ♂ $\frac{3}{2}$, Mindo, 6000 f.; 2 ♂♂ $\frac{20}{5}$, Canchacoto, 6000 f. The colour of the margins of the quills is paler and less purplish than the colour of the lesser wing coverts. This should thus correspond with the condition described for the «eastern» race, although the localities where the specimens have been collected belong to the western territory. There appears thus to prevail some uncertainty, whether this slight difference in colour stands in correspondence with a constant geographical distribution. Consul SÖDERSTRÖM has also written on the label of the specimen from Canchacoto »also found at Baeza on the road to Napo 6000 f.»

Dubusia taeniata BOISS. — 1 ♀ $\frac{1}{7}$, 1 ♂, 1 ♀ $\frac{18}{7}$, 1 ♂ $\frac{20}{8}$, Chinquil, 9000 f.

Tanagra cana SWAINS. — 1 ♂ $\frac{12}{4}$, 1 ♂ $\frac{14}{4}$, 1 ♀ $\frac{14}{5}$, 1 ♂, 1 ♀ $\frac{25}{5}$, Gualea, 5000 f.

Tanagra palmarum violilavata BERL. & TACZ. — 1 ♂, 1 ♀ $\frac{9}{7}$, Niebli, northwestern side of Pichincha, 7000 f.; 1 ♂ $\frac{20}{7}$, road to Gualea, 7000 f.

Tanagra darwini BP. — 1 ♂, 1 ♀ $\frac{8}{8}$, 1 ♂, 1 ♀ $\frac{10}{9}$, Tumbaco, 1 ♂, 1 ♀ $\frac{7}{4}$, 2 ♂♂ $\frac{10}{10}$, Quito, 9500 f. »This bird occurs all over the interior. It is very destructive on the fruit as apples, cherries etc., and even eats the pepper pods.» (L. S.)

Sporothraupis cyanocephala D'ORB. & LAFR. — 1 ♂ $\frac{3}{2}$, 1 ♂ $\frac{17}{7}$, below Nono, 9000 f.

Rhamphocaelus icteronotus BP. — 1 ♂ $\frac{10}{7}$, 1 ♀ $\frac{20}{7}$, Gualea, 5000 f.; 1 ♂ $\frac{4}{7}$, 1 ♀ $\frac{12}{7}$, 1 ♂ $\frac{7}{10}$, Nanegal, 5500 f.; 1 ♂ $\frac{3}{11}$, Mindo, 5500 f. Local name: »Platanero». »Found all over the wester side wherever there is plantains (Platanos) from 1000 to 6000 f. the whole year.» (L. S.)

Pyrranga rubra rubra LIN. — 1 ♀ $\frac{3}{1}$, 1 ♂ $\frac{7}{4}$, 1 ♀ $\frac{3}{9}$, 1 ♂ $\frac{20}{12}$, Quito, shot in garden; 1 ♂ $\frac{20}{3}$, 1 ♀ $\frac{6}{4}$, Chaupicruz, out-

side Quito. »This bird has a very wide range from Santo Domingo de los Colorados up to Quito 9500 f. Only one or two birds are seen at a time. They usually remain in the gardens 2 or 3 days and then disappear.» (L. S.) It has thus the unsteadiness of the migrating bird.

Pyrrangia ardens TSCHUDI. — 1 ♂, 1 ♀ $^{10}/_6$; 1 ♂ juv. $^{20}/_{12}$.
1 ♂ $^{22}/_{12}$, below Nanegal, 4000 f.

Pyrrangia rubriceps GRAY. — 1 ♂ $^{10}/_4$, Mindo, 5500 f.

Pyrrangia rubriceps rufistigmata n. subsp. — 2 ♂♂ $^{24}/_2$, below Baeza, 5500 f. These birds are otherwise similar to the western specimens, but they have the long under primary coverts tipped with *rufous*, instead of *yellow*, as is the case with the western specimens. This difference is, of course, rather slight in itself, but taken together with the geographical distribution, it is of considerable interest as it confirms, that seldom if ever the birds on the western and eastern sides of the Andes are quite alike.

The type of *Pyrrangia rubriceps* was from Bogota without any more definite indication of its origin. It is of course possible that birds from »Bogota» may have been collected on the western, or on the eastern side of the faunistic boundary-line, but as the uncertainty in this case makes it impossible to decide anything, definite we select the western form as the type.

Sericossypha albicristata LAFR. — 1 ♂, 1 ♀ $^{30}/_3$, Baeza road to Napo, 6000 f.

Chlorospingus flavigularis SCLATER. — 2 ♂♂, 1 ♀ $^{29}/_3$, 1 ♀ $^7/_{10}$, near Nanegal, 6000 f.

Chlorospingus semifuscus SCLATER & SALVIN. — 2 ♂♂ $^{20}/_1$; 2 ♂♂, 1 ♀ $^{10}/_4$, 1 ♀ $^6/_{10}$, below Calacali, road to Nanegal, 8000 f.; 1 ♂ juv. $^5/_2$, 1 ♀ $^5/_2$, 1 ♀ $^{10}/_7$, below Nono, 9000 f.

Hemispingus superciliaris nigrifrons LAWR. — 2 ♂♂, 1 ♀ $^{19}/_2$, 2 ♂♂, 1 ♀ $^{14}/_7$, 2 ♂♂ $^{13}/_9$, 1 ♀ $^{20}/_{11}$, below Lloa, 9500 f.; 1 ♀ $^{24}/_8$, 1 ♂ $^{20}/_{11}$, below Calacali, 9000 f.; 1 ♂ $^6/_5$, below Nono, 9000 f.

Psittospiza riefferi BOISS. — 2 ♂♂, 1 ♀ $^6-^{14}/_2$, Canchacoto, road to Chones, 5500 f.

Ocyalus latirostris SWAINS. — 1 ♀ $^{16}/_1$, near Archidona, about 4000 f.

Ostinops alfredi DES MURS. — 4 specimens $^{20}/_{11}$ & $^{7}/_{12}$, near Gualea, 5000 f.

Ostinops angustifrons SPIX. — 1 ♂ $^{20}/_{12}$, Baeza road to Napo, 6000 f.

Cacicus cela LIN. (*persicus* LIN.). — 1 ♂ $^{3}/_{10}$, Baeza road to Napo, 6000 f.

Cacicus leucorhamphus BP. — 1 ♂, 1 ♀ $^{10}/_{2}$, 1 ♂, 1 ♀ $^{7}/_{7}$, 2 ♂♂ $^{22}/_{4}$, 1 ♀ $^{3}/_{10}$, 2 ♂♂ $^{24}/_{11}$, Baeza, 6000 f.

Cacicus uropygialis LAFR. — 1 ♂, 1 ♀ $^{20}/_{11}$, Baeza, 6000 f.; 1 ♂, 1 ♀ $^{7}/_{7}$, Cuyuco, below Baeza, 5500 f.

Cassidix violea BANGS. — 1 ♀ $^{7}/_{6}$, 1 ♂ $^{18}/_{6}$, 1 ♂, 1 ♀ $^{10}/_{7}$, Canchacoto, road to Chones, 6000 f.; 1 ♂, 1 ♀ $^{20}/_{7}$, 1 ♂ $^{7}/_{11}$, near Mindo, 5500 f.; 1 ♀ $^{10}/_{9}$, road to Nanegal, 6000 f.

Xanthura yncas BODD. — 2 ♂♂ $^{20}/_{2}$, 1 ♂ $^{9}/_{3}$, 1 ♂, 1 ♀ $^{7}/_{7}$, 1 ♀ $^{10}/_{7}$, Baeza, 6000—5500 f.

Cyanolyca turcosa BP. — 1 ♂, 1 ♀ $^{9}/_{3}$, 1 ♂, 1 ♀ $^{10}/_{4}$, 1 ♂ $^{3}/_{9}$, below Nono, 8000 f.; 1 ♂ $^{20}/_{2}$, Piganta southwestern side of Mojanda, 7500 f.

